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ABSTRACT

This monograph, written for beginning teachers, is organized around the list of competencies upon which the assessment phase of the Virginia Beginning Teacher Assistance Program is based. Each chapter contains information about a competency required for certification in Virginia. The chapters follow the same general format. First, the definition of the competency to be mastered is presented. This is followed by a discussion of the purpose of the assistance or a statement of what people can expect to gain as a result of working through the chapter. The background knowledge section discusses professional literature relevant to the objective, and suggestions are made for practice activities that may help to build knowledge of the competency. Areas of competence covered include: (1) planning; (2) reinforcement; (3) consistent rules; (4) academic learning time; (5) accountability; (6) close supervision; (7) awareness; (8) questioning skill; (9) clarity of structure; (10) meaningfulness; (11) individual differences; (12) learner self-concept; (13) affective climate; and (14) evaluation. References are included in each chapter. (JD)

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ASSISTING THE BEGINNING TEACHER

Edited by

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and

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July 1985

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This project was conducted in accordance with a contract with the Virginia Department of Education. These materials address the first six competencies required for teacher certification as specified on page eight of the Certification Regulations for Teachers adopted by the Board of Education of the Commonwealth of Virginia, Richmond, Virginia, effective July 1, 1982.

PREFACE

This document has two distinct purposes. The short-term goal is to enable beginning teachers in Virginia to pass the assessment phase of the Beginning Teacher Assistance Program (BTAP). Although passing a competency test is one indication that an individual is qualified to teach, true professionalism requires the acquisition of appropriate attitudes and the mastery of a wide range of knowledge and skills. The long-term goal is therefore to enable beginning teachers to develop well-rounded professional identities, which we believe is important for both teachers and their students. We hope that by reading this text, by participating in related instructional activities, and by receiving individualized assistance, as needed, beginning teachers will be able to achieve both of these goals.

The primary audience for this document consists of all beginning teachers in Virginia. Beginning teachers have been defined by the Virginia State Eduction Department as those teachers seeking certification in the State for the first time. Most of these "beginners," no doubt, will pass the assessment phase on their first attempt. Even so, this material should prepare them to be observed and enable them to assess their own needs and strengths. In preparation for observation, some beginning teachers may work with one another and with leaders in organized training sessions; others may elect to work on their own. Regardless of which tack a beginner might take, this document should provide direction for developing his or her professional knowledge and skills.

Another audience for this text is composed of the staff developers who offer support to beginning teachers. The material that follows will shape the assistance activities that will be offered in some localities. This material will form the core of the curriculum for assistance sessions. It can be argued both ethically and legally that staff development for beginning teachers in Virginia must include opportunities for participants to acquire the competencies for which they will be held accountable. If assistance follows the general directions specified in this text, then it should be defensible on both counts.

Several assumptions underlie this text. First, beginning teachers do not develop competence overnight; they need time. This document or any other set of educational materials will not magically boost a teacher's abilities. Second, beginners can be expected to benefit from opportunities to apply the skills they must master. Thus we have tried to encourage readers to use the ideas described in this document, not merely to read about them. Third, in order to be maximally effective, we think this material must be supplemented by videotapes, films, simulations, live observations of teaching, microteaching, and the like. Reading and talking about teaching are necessary for developing competence, but thinking and acting like a professional are possible only through the opportunities for practice that such supplementary materials and activities afford. Fourth, individual profiles of beginning teachers should be constructed from the results of their initial assessments. It will then be possible from the outset to allow beginners to work through some sections of this document and to ignore others.

It is important to emphasize that a competent beginning teacher is one who demonstrates certain professional knowledge and attitudes in the performance of his or her job. The term "competence" has little meaning when considered in isolation from the performance of the role of teacher. Although a list of individual competencies has evolved from the research literature, relying exclusively on that list is not a failsafe plan for success in the classroom. Only as teachers bring their knowledge to bear when planning, implementing, and evaluating instruction does the term "competence" have meaning.

Even though people have been establishing teaching standards and teacher education programs for some time, some would argue persuasively that the knowledge base for a program of this sort is extremely weak and that to suggest otherwise is at best mistaken effort. It is almost as if Lewis Thomas were thinking of educational research instead of biomedical research when he wrote:

> The thing to do, to get us through the short run, the years just ahead, is to celebrate our ignorance. Instead of presenting the body of human knowledge as a mountainous structure of coherent information capable of explaining everything about everything if we could only master all the details, we should be acknowledging that it is, in real life, still a very modest mound of puzzlements that do not fit together at all . . . Get us through the next few years, I say, just get us safely out of this century and into the next, and then watch what we can do.

We concede that it would be foolish for us to assert anything beyond the fact that the knowledge base used to make decisions about professional teaching practice is only now emerging from careful study of life in schools. As the knowledge grows, so, too, will our conceptions of how teaching competence and teaching excellence can be fostered.

We have organized this document around the list of "competencies" upon which the BTAP assessment is based. Each chapter contains information about a competency required for certification in Virginia. We have organized our writing this way because much of the discussion about certification in the State has centered around these competencies. Also, as we noted above, this approach should allow assistance to be provided with at least some attention to the individual needs of teachers.

In practice, of course, there is considerable overlap among the competencies. For example, to be able to plan for instruction, a teacher must know something about individual differences among students, about evaluation, and so forth. Recognizing that various competencies tend to cluster in particular instructional situations and that certain contextual factors (e.g., grade level and subject matter) may influence teaching and learning is one thing; writing about the complexity of these interactions in a way that is understandable is quite another. By treating the competencies separately--much as they are treated when decisions about granting or denying certification are made--we hope to have provided material both useful and consistent with the assessment component of the Beginning Teacher Assistance Program.

Each chapter follows the same general format. First, we present the DEFINITION of the competency to be mastered. Next, we discuss the PURPOSE of the assistance or a statement of what people can expect to gain as a result of working through that chapter. In the BACKGROUND KNOWLEDGE sections we discuss professional literature relevant to the objective. Finally, we suggest various PRACTICE ACTIVITIES that might be undertaken for the purpose of building one's knowledge of the competency. Not only do these activities provide opportunities for readers to practice new skills; they also encourage readers to explore their knowledge of current educational policies and procedures and their awareness of their own attitudes and typical classroom behaviors. We have also included REFERENCES so that you might refer to them if you wish.

Robert F. McNergney

Acknowledgments

Special thanks go to numerous individuals and groups for their help with the development of the Beginning Teacher Assistance Program (BTAP), and thus in one way or another with the production of this document.

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The fact that these people, and many others, have contributed in one way or another to the Beginning Teacher Assistance Program does not, of course, imply their endorsement of the program or of this document.

Robert F. McNergney

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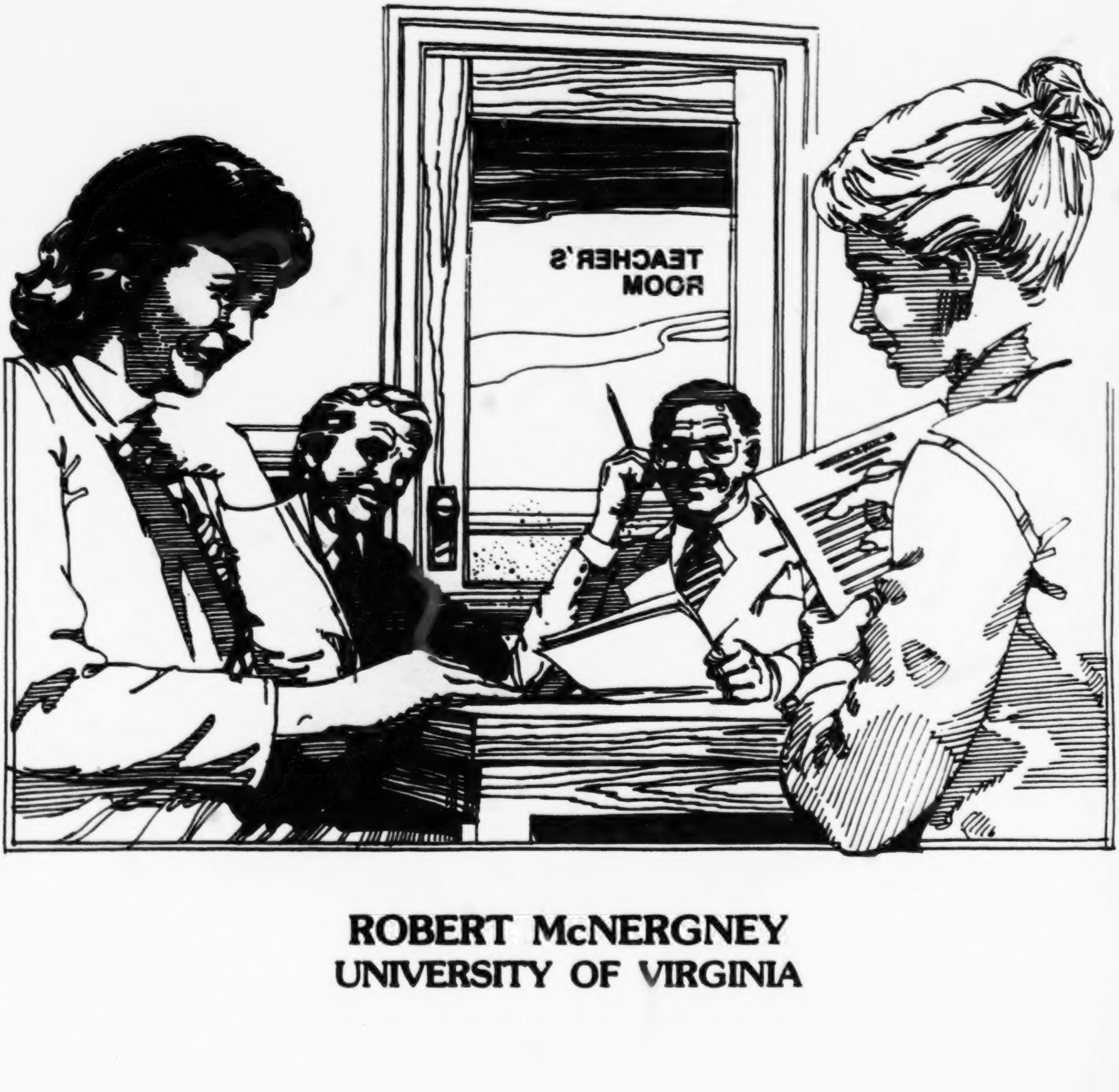
PLANNING


TEACHER'S
ROOM

ROBERT McNERGNEY
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DEFINITION OF COMPETENCY

The competent teacher knows the importance of deliberate and varied planning activities. Instructional planning should reflect the teacher's knowledge that (1) learning activities should match the instructional objectives; (2) learning is facilitated when ideas are communicated in more ways than one; (3) the current literature on the teaching profession should be consulted regularly; and (4) learners' scores on standardized tests contain important and useful information about the class as a group and about individual learners.

PURPOSE

The purpose of this chapter is to assist you in performing a number of activities typically associated with effective instructional planning. The material that follows encourages you to use test data--in particular standardized test data--to help define instructional objectives and to formulate strategies for teaching. It suggests how you might begin to identify relevant professional literature as you define objectives and how you might choose learning activities, content, or materials that are appropriate for your students. This section also addresses problems of defining objectives of instruction in measurable terms, of using information about test reliability, validity, and test norms, and of using different modes of delivery to reach learners with different needs and abilities.

BACKGROUND KNOWLEDGE

Never mind what is said about the plans of mice and men; if you are a teacher, you are a lot better off with plans than without them. Educational theorists and practitioners have long recognized that the ability to plan, or to make decisions that will shape the course of instruction, is an important part of teaching (Morrison, 1926; Tyler, 1950; Jackson, 1966; Eisner, 1967). Many teacher education courses and textbooks are devoted, at least in part, to developing teachers' abilities to plan, and research on planning has received increased attention in recent years.

No doubt when you assumed your first job you were given a plan book and encouraged to forecast your instruction well in advance. Some school divisions require teachers to plan for a period of weeks or months using such a book. The importance of the book is not in its form but in the idea behind it: planning helps you organize instruction, keep records of events, and guide others who might observe your teaching or take over in your absence.

Teachers' plans can and do take many forms. Some are elaborate scripts, detailing what is to be done, by whom, when, and under what conditions. In contrast, others are cryptic scrawls closely resembling shopping lists--reminders of key ideas and events in teaching. Regardless of length and detail, the basic components of plans include goals or purposes, some sense of the needs of students in relation to these goals, procedures for moving students toward the goals, and some provision for deciding whether or not instruction was successful (Morine-Dershimer, 1977). Plans are no more and no less than visible indications of teachers' thinking about what is supposed to occur in classrooms.

As research and practice suggest, teachers are concerned about a variety of things when making instructional planning decisions. Researchers have been interested in trying to determine at what point teachers actually begin the process of planning and how much time and effort they spend on different kinds of planning decisions. Although studies of planning have yielded somewhat variable results, there are commonalities among the problems teachers face when planning instruction. As one might expect, early in their careers teachers are concerned about maintaining order in the classroom (Fuller, 1969). These concerns may be reflected in their plans by efforts to reduce their own uncertainty and anxiety (Yinger, 1978). McCutcheon (1980) concluded that one of the important functions of planning--beyond serving as a means of organizing instruction--is the sense of security and direction it provides teachers. (Remember this fact when you are inside on a beautiful Sunday planning for the upcoming week!)

As teachers gain experience, they become more concerned about the needs of children. Indeed, Taylor (1970) concluded that while teachers' approaches to planning vary widely, they seem to be concerned first about students, second about subject matter, third about goals, and finally about methods of teaching. Bloom's (1976) work suggests that learning is so heavily dependent on the abilities of children--both cognitive and affective--that diagnostic skills are among the most important for teachers to master. By knowing what students can reasonably be expected to accomplish and what is likely to interest and challenge them, a teacher will be able to plan in-class activities and seatwork or homework assignments that will truly encourage learning.

In one planning study, Zahorik (1975) found that the kind of planning decision which teachers made first was concerned with the selection of content and the one made most often involved the selection of learning activities. Teachers in the Zahorik study were by comparison only quite minimally concerned with the objectives of instruction. What this means to you, as a beginner, is that you may need to remind yourself to refer frequently to your curriculum guides.

Often teacher education programs do not emphasize the importance of various planning activities in quite the same way as do practicing teachers and researchers. The prescriptive models stressed in some teacher education programs are typically modeled after objectives-based approaches to teaching and curriculum development. Although these approaches can appear quite reasonable and logical, results of research do not seem to support their popularity among teachers. As noted above, teachers are often concerned about maintaining order, selecting content, and helping individual students.

Identifying Goals and Objectives

It is often tempting for teachers to create their own objectives and curriculum or to pick and choose parts of textbooks while ignoring other sections altogether. If you should find yourself succumbing to this temptation, let me suggest one general rule of thumb to guide your behavior: DON'T! As a beginnner, don't take sole responsibility for deciding what should be taught and what should be neglected. When you do, you may well fail to help students to attain important outcomes. The responsibility for deciding what should be taught belongs to curriculum committees and to school administrators. Beginning teachers should rely heavily on local and state curriculum guides and on textbooks for direction. Once you get your feet on the ground there will be plenty of time for stretching and enriching your curricular and instructional decisions.

Does that sound as though I am advocating blind obedience to the will of the powers that be? I certainly hope not. Of course you have a professional responsibility to take advantage of opportunities to teach your students about ideas and events which arise naturally every day and are not part of the standard curriculum. But you also have a responsibility to provide children opportunities to master material that presumably has been selected with some care and that reflects the values of the school and community.

Practice Activities

Did you know the State of Virginia is developing and refining a set of curricular standards for all subjects taught in the public schools? These are called the Standards of Learning, or SOLs for short. Here is what S. John Davis, Superintendent of Public Instruction, says about the Standards of Learning:

> The Standards of Learning Program is designed to identify what students are expected to accomplish, to provide a method for determining what has been learned, and to encourage teachers to give additional instruction when needed. It is not intended to reduce the total school program to a

> single list of objectives or to replace the curriculum that a school division already may have developed for its students. The staff in school divisions which already have such programs will need to examine them to ensure that the Standards of Learning Objectives are included. (1983, p. 11)

If you have not examined the SOLs, go immediately to your nearest curriculum coordinator or administrative office and get them. As you read, ask yourself (and others in your building) how the Standards are being used to guide instruction in your school division.

Saying you may be concerned about a variety of things is not saying objectives are unimportant. Quite the contrary. If you don't know where students are supposed to go, how will you know if and when they arrive? You may recall from your own teacher education program that you spent considerable time studying the concept of instructional objectives, or behavioral instructional objectives (Mager, 1962). You probably also remember that some objectives are measurable--reasonably precise and possible to appraise somewhat objectively--and others are not. If you can state your objectives in unambiguous language you have gone a long way toward making it possible to assess your instruction. At the same time, an objective that is measurable is not automatically worthwhile. Critics of the usè (overuse) of behavioral objectives have rightly noted that efforts to make objective and quantify all learning can lead to trivialization. But as you move toward greater precision in planning and communicating your expectations for student performance, you will begin to realize how to create opportunities for fitting objectives to learner needs.

Practice Activity

Which of the following objectives do you think might be measurable? If it is not measurable, do you know why?

1. Students will listen to a recording of Robert Frost's poetry and develop an appreciation for his work.

2. Given a crossword puzzle, each student will complete it within twenty minutes.

3. After the demonstration on electromagnets, the students will write a paper of at least one page in length in which they describe the three principle components of magnetism.

4. In a whole group discussion on drug abuse each student will be called upon at least twice to share his or her thoughts.

5. The teacher will read a story about American Indians and students will learn about religious customs in the Indian culture.

6. After the students have seen the film People of the Northland, they will analyze the factors associated with living in a polar environment.

Responses to Practice Activity

1. This objective may be desirable, but how the teacher might measure "appreciation" is unclear.

2. This objective is measurable. It is possible to determine if each student has completed the puzzle within twenty minutes.

3. The criteria for success are clear: one page, three principles. This one is measurable.

4. This one is measurable but not necessarily worthwhile.

5. The phrase "will learn" is unclear; therefore, the objective is unmeasurable in this form.

6. The phrase "will analyze the factors" is fuzzy and thus the objective is not measurable.

Despite considerable latitude, teachers are not often left free to plan instruction in isolation from the social system in which they and their students operate. Contextual factors must dictate to a large extent how and why teachers plan as they do. It is fairly obvious that if you are in a departmentalized system you can't plan an all-day field trip with your class without first consulting teachers of other classes that might be affected by your absence. It is somewhat less obvious, but certainly no less important to recognize, that a teacher who tries to teach concepts that have already been addressed by colleagues and mastered by students may well be wasting valuable instructional time. As we noted above, the beginning teacher who relies heavily on his or her texts and on local curricular guidelines and policies will be in a professionally sound, defensible position.

Identifying Students' Needs

To the casual observer it may seem that teachers often neglect the information they have about students and about curriculum in their planning. But as Borko and her collegues suggest (Borko, Cone, Atwood & Shavelson, 1979), teachers can and do use information relevant to teaching and learning as they plan instruction for their students. From a series of studies on teachers' planning decisions, they found that teachers will estimate students' abilities when given some cues about learning needs, they will revise their readings of students when provided additional information, and their assessments of students' abilities will figure prominently in the decisions they make while planning instruction. The decisions teachers make may depend on different kinds of information relevant to the tasks to be accomplished.

Practice Activities

Let's examine some of the kinds of information about students that you might have at your disposal and see if you can interpret it. Table 1 on the following page contains information about children's scores on the Metropolitan Readiness Test--a test often given to kindergarten children. We'll use this table in some of our discussion. (Even if you happen to be a high school social studies teacher, you may want to try your hand at these activities. The concepts discussed are relevant to standardized testing regardless of grade level.)

1. Assume for a moment that you are a kindergarten teacher who has administered the Metropolitan Readiness Test and has recently received the results of scoring. Given your Class Record (Table 1), you must now decide how to interpret and use the information to make some instructional planning decisions. The following questions (and responses in the section below) have been adapted from the Teacher's Manual for the Metropolitan Readiness Test (Nurss & McGauvran, 1976):

a. Who are the three slowest students in the class?

b. How might these test scores be used to help you plan instruction for the group and why do you think certain students receive the kinds of scores they do?

Table 1
Class Record of Metropolitan Readiness Test Scores*

Name	Auditory		Visual				Language				Pre-reading Skills Composite			Sex	Age	
	1	2	3	4	T	Sta.	5	6	T	Sta.	Raw	%	Sta.		Yrs.	Mths.
1. Aileen W.	6^{A}	6^{L}	8^{A}	10^{A}	18	4^{A}	11^{A}	7^{A}	18	4^{A}	48	30	4^{A}	G	5	4
2. Nathaniel T.	10^{A}	13^{H}	11^{H}	13^{A}	24	7^{H}	14^{H}	11^{H}	25	9^{H}	72	95	8^{H}	B	5	9
3. Matthew S.	4^{L}	2^{L}	3^{L}	6^{L}	9	2^{L}	1^{L}	1^{L}	2	1^{L}	21	3	1^{L}	B	5	1
4. Lucas R.	8^{A}	5^{H}	11^{H}	10^{A}	21	5^{A}	13^{A}	10^{H}	23	7^{H}	57	48	5^{A}	B	5	9
5. Bernadette P.	4^{L}	10^{A}	10^{A}	12^{A}	22	6^{A}	14^{H}	8^{A}	22	6^{A}	58	51	5^{A}	G	5	3
6. Kyle N.	12^{H}	12^{H}	10^{A}	13^{A}	23	6^{A}	14^{H}	10^{H}	24	8^{H}	70	88	7^{H}	B	5	6
7. Cecile M.	10^{A}	11^{A}	11^{H}	14^{H}	25	$8\text{-}9^{H}$	13^{A}	11^{H}	24	8^{H}	70	88	7^{H}	G	5	5
8. Clarice M.	11^{H}	13^{H}	11^{H}	13^{A}	24	7^{H}	14^{H}	11^{H}	25	9^{H}	73	97	9^{H}	G	5	6
9. Jason L.	7^{A}	10^{A}	11^{H}	13^{A}	24	7^{H}	13^{A}	9^{A}	22	6^{A}	66	76	6^{A}	B	5	7
10. Frank K.	4^{L}	10^{A}	11^{H}	5^{L}	16	4^{A}	10^{A}	5^{L}	15	3^{L}	45	24	4^{A}	B	5	1
11. Dustin K.	7^{A}	7^{A}	6^{A}	3^{L}	9	2^{L}	10^{A}	4^{L}	14	3^{L}	37	13	3^{L}	B	5	6
12. Erica J.	3^{L}	7^{A}	5^{A}	10^{A}	15	4^{A}	9^{L}	6^{A}	15	3^{L}	45	24	4^{A}	G	5	7
13. Gabrielle H.	10^{A}	9^{A}	10^{A}	10^{A}	20	5^{A}	14^{H}	9^{A}	23	7^{H}	62	63	6^{A}	G	8	4
14. Helena G.	2^{L}	4^{L}	4^{L}	1^{L}	5	1^{L}	8^{L}	2^{L}	10	2^{L}	21	3	1^{L}	G	4	11
15. Irene F.	4^{L}	8^{A}	10^{A}	10^{A}	20	5^{A}	13^{A}	9^{A}	22	6^{A}	61	60	6^{A}	G	5	8
16. Cameron D.	7^{A}	11^{A}	11^{H}	14^{H}	25	$8\text{-}9^{H}$	13^{A}	10^{H}	23	7^{H}	66	76	6^{A}	B	5	7
17. Jessica D.	8^{A}	5^{L}	7^{A}	12^{A}	19	5^{A}	10^{A}	5^{L}	15	3^{L}	47	28	4^{A}	G	5	3
18. Brandon C.	8^{A}	9^{A}	11^{H}	14^{H}	25	$8\text{-}9^{H}$	14^{H}	9^{A}	23	7^{H}	63	66	6^{A}	B	5	3
19. Lauren B.	6^{A}	12^{H}	5^{A}	7^{L}	12	3^{L}	10^{A}	7^{A}	17	4^{A}	47	28	4^{A}	G	5	8
20. Adrian B.	6^{A}	13^{H}	10^{A}	12^{A}	22	6^{A}	15^{H}	10^{H}	25	9^{H}	66	76	6^{A}	B	5	5

*The letters "L," "A," and "H" represent ranges of stanines. L (low)=1-3. A (average)=4-6. H (high)=7-9.

c. Identify those students who may be ready to begin a reading program, that is, those students who have Prereading Skills Composite stanines and Visual and Language Skill Area stanines in the 7-9 range.

d. Identify those students who will need special attention for the purpose of trying to determine why they received low scores.

e. Which children should be able to begin communicating ideas by dictating words, phrases, or sentences?

f. What is a median?

2. Now let's turn our attention to a different set of test scores--those for one student, Jane Doe, on the SRA Achievement Series. (See Tables 2 and 3 on the following pages.) When Jane took this test she was in the eleventh grade in Smith's classroom in Horace Mann High School in the Acme County Schools. At the left of Table 2 are the names of the tests administered and the scores Jane earned on each. At the right is the national percentile ranking and its range plotted for each test.

Reading across the first horizontal line you can see that in TOTAL READING Jane received a score or growth skill value (GSV) of 466. Her grade equivalent (G-E) is 12-9. This put her in the 79th national percentile (NPCT) and the 7th national stanine (NSTN). Jane's "true score" (as depicted at the extreme right) fell somewhere between about the 68th and 89th percentiles on the national sample of students who took the test.

Assume for a moment you are planning a "career day" for students when college and business representatives will visit your classes. Before you encourage Jane to visit with a college representative, you have invited Jane's father to see you to discuss her progress in school. He is a concerned parent--one who wants Jane to do her best so she might go to college on a scholarship. He has several questions

Table 2
SRA Results

Student Name: Doe, Jane
Date of Birth: 01/25/67
Grade: 11
Sex: F
Division: Acme County Schools
School: Horace Mann
Classroom: Smith
Test SRA Form 1/H–1978 Edition
Date of Test: March 1984

	Test Scores			
Test Title	**GSV**	**G-E**	**NPCT**	**NSTM**
Total Reading	466	12-9	79	7
Total Mathematics	577	12-9	92	8
Total Language	569	12-9	99	9
Composite (R/M/L)	671	12-9	96	9
Reference Materials	478	12-9	70	6
Social Studies	517	12-9	76	6
Science	442	12-9	73	6
Survey Applied Skills	510	12-9	83	7
	GSV	**NPCT**	**NSTM**	
Educ. Ability Series	583	80	7	

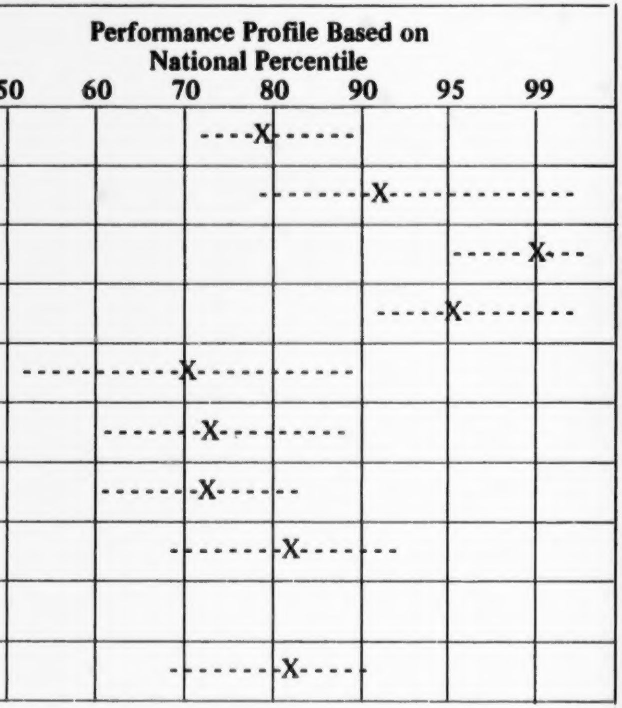

Table 3
SRA Skill Test Results

Skill Title	**National Average**	**Below**	**Obtained Aver.**	**Above**
Reading Vocabulary	29.2/40		36	
–Literal Meanings	25.2/35		32	
–Nonliteral Meanings	4.0/ 5		4	
Reading Comprehension	35.0/50		42	
–Grasping Details	9.0/13		9	
–Summarizing	3.2/ 5		3	
–Perceiving Relationship	7.7/12		10	
–Drawing Conclusions	11.8/16			16
–Understanding Author	3.2/ 4		4	

about these test results and about Jane's overall progress. Try to answer his questions as best you can, then check your responses against those provided below. If you can't respond reasonably, you would be wise to seek additional information on standardized testing. REMEMBER: some of the best information you can find is available in the test manual that accompanies standardized tests.

a. "My Jane has always liked to read. I guess her trips to the library have paid off. Is it true that she really reads better than 79 percent of the other eleventh graders in the nation?"

b. "I'm a little confused about this 12-9 grade equivalent. That can't mean Jane reads as well as a graduating senior, can it?"

c. "Other teachers have tried to explain to me what a stanine is, but I can't remember. Would you please refresh me?"

d. "I can see Jane's score of 36 on vocabulary (Table 3) is in the aveage range, but what does that national average of 29.2/40 mean?"

Responses to Practice Activities

1a. BE CAREFUL! You must resist labeling students on the basis of these test scores. The scores should alert you to the possible need for collecting more precise diagnostic information on particular students. Impressions of students based on these test scores can be misleading because the scores are subject to error. Students' performances can be influenced by a variety of factors. Generally, the Standard Error of Measurement for this test is about one stanine. This means that if a student has a stanine of three, his or her "true" stanine falls somewhere in the range of two to five (or one stanine above the reported stanine and one below). Remember, a stanine is a translation of a raw score into a single-digit standard score having a range of 1 to 9, with 5 always representing the average performance of a group of students.

b. The test scores may help the teacher plan instruction by providing some indication of the extent to which students have acquired the skills measured by the test, by suggesting what skills students need to develop, and by making evident some instructional objectives that need to be modified. Children may score as they do for a variety of reasons beyond differences in abilities. For example, they may not have had opportunities to develop skills measured by the test. For some, English may not be their first language. Others may have certain learning disabilities. Still others may not have put forth their best efforts when taking the tests.

c. The children who may be ready to begin a reading program--based on their visual, language, and prereading skills composite stanines--are Nathaniel, Cecile, and Clarice. Kyle may also be considered, but his visual stanine was only in the average range. Once again, be careful in the use of these test scores to make such an instructional decision. If you were to identify the three or four students above and place them in a beginning reading program, while having other students do "prereading activities," you might discover at the end of the year, not surprisingly, that those who had been instructed could read and those who were not identified as ready, and thus were not taught, could not read. This could mean that the test is a good predictor, but it could also mean that because a teacher expects less from some students, they deliver less. You can protect against such possible negative effects by recognizing that testing can influence a teacher's expectations and thus his or her teaching behavior, and by assessing children periodically using a variety of devices.

d. The children who will need special attention in order to determine why they received low scores are Matthew, Dustin, and Helena.

Remember, low scores may indicate that students did not understand the task. If a student scores below

22, his or her abilities have not been adequately measured by the test. Low scores may also indicate a general lack of maturity. In this particular case, two of the three children are the youngest in the class.

e. The high language group, Nathaniel, Lucas, Kyle, Cecile, Clarice, Gabrielle, Cameron, Brandon, and Adrian--should be able to handle these activities.

f. The median is the point below which 50 percent of the scores fall.

2a. "Well, Mr. Doe, that is not quite what the 79th percentile means but you aren't far off the mark. As you can see at the right of Table 2, Jane's score, designated by the "X," falls within a range from about the 68th percentile to the 89th. This means her true score could fall anywhere in that range. The 79th percentile is the point below which 79 percent of the scores fall. You should also remember that not all eleventh graders in the nation took this test. Jane is compared only with those who did."

b. "I can understand why you might be confused about grade equivalent scores. They are tricky and easily misinterpreted. Let me try to explain by using an example. If Jane received a score on a test that was equal to the median or average score of the eleventh graders taking the test in September, she would be given a grade equivalent of 11.0. If her score were equal to the median score of all twelfth graders, she would be given a grade equivalent of 12.0. Because most school years consist of ten months, any score in between is expressed in terms of decimals; that is, 11.1 would refer to average performance of eleventh graders in October."

"Just because Jane got a 12-9 (or 12.9) does not mean she reads as well as a graduating senior. The 12-9 is an estimation of the total reading skills measured by this test. An eleventh grader with a 12-9 grade equivalent does not necessarily read as well as a graduating senior."

c. "Stanines are standard scores with a mean of 5 and a range of 1 to 9. Jane's stanine of 7 puts her in what the test makers often refer to as the "high range"--those students who fall in the 7th, 8th, or 9th stanines."

d. "That's correct. Jane's score of 36 on vocabulary skill test (Table 3) is in the average range. The national average of 29.2/40 means that the average performance on this skill test was 29.2 correct out of 40 items."

Formulating Teaching Procedures

A procedures section of a teacher's plan typically outlines when and how certain events will occur. A lesson plan for one class period may be quite specific in this regard. Indeed, I knew a beginning high school teacher who wrote every word he intended to say in class, noting when he should be at certain points in his script! (I only did it a few times though until I realized I was too nervous even to refer to my notes during class.) Certainly a better strategy would be to use an outline or structured overview, much like those discussed in the chapter on CLARITY OF STRUCTURE.

The procedures section of a plan contains a teacher's thoughts about moving students toward lesson objectives. Often teachers will include statements about materials to be used at each step of a lesson and about time allocation to various activities. Sometimes a separate "materials subsection" will be included so ideas about what will be needed to conduct a lesson will not be "buried" in the procedures section and easily overlooked.

It is important to remember when establishing procedures that there is often more than one way to teach the same or similar concepts. You may need to try several approaches in order for students to succeed. Note in Box 1 on the next page that the teacher has planned two activities, varying somewhat in the amount of time required for completion, to address the same multiplication concept. The first activity might be used with children who have demonstrated some facility with multiplication; the second could be used with those who have had some difficulty with that process.

Box 1
Sample Outline for Teaching a Single Concept Using Two Different Approaches

Sample 1—Teaching the commutative law deductively.

1. Write "a x b = b x a" on the chalkboard. Explain that the letters stand for numerals. Substitute various numerals for the letters.
2. Ask students to supply other examples. Write their suggestions on board.
3. Distribute worksheet containing examples and nonexamples of the commutative law and have students work independently to identify the examples.

Sample 2—Teaching the commutative law inductively.

1. Give students large stacks of paper cups (at least 100 in a stack).
2. Have students make three stacks of four cups each and then tell you how much 3 x 4 equals. Using the same cups, have students make four stacks of three cups each and then tell you how much 4 x 3 equals.
3. Encourage students to make other such groupings and to write down the examples they find which have the same answer.
4. After some time to work, see if you can get one of the students in the group to tell the class what "rule" he or she has discovered.

Your planning can be governed by any number of philosophies about teaching and learning, but there are three, for want of a better term, "general approaches" that are quite prevalent. These dictate to a large extent how the teacher will communicate his or her expectations to students. Let me try to be somewhat less opaque. In varying degrees, your plans will probably try to (1) remediate students' deficiencies, (2) compensate for deficiencies that students possess and will likely never be remediated, or (3) capitalize on the kinds of things students prefer to do and do well (Solomon, 1972). There is little information about how teachers spend the majority of their time with respect to these approaches, yet many seem to believe that the most frequently-used approach is to try to remediate deficiencies--to fix the things students don't do very well. As you teach, you will communicate much to students by the general approach that has governed your thoughts during planning.

If you are always planning and teaching to remediate students' deficiencies, for instance, you must be careful to do so with a sense of providing opportunities for success by emphasizing what students can do, rather than stressing what they have not yet mastered. In other words, you would probably be wise to turn your thinking about the procedures section of a plan toward ways of encouraging students to tackle new challenges for which they are prepared--hurdles that may at times be difficult but that are clearly within the grasp of people who have accomplished so much.

When Things Go Wrong

Successful experienced teachers (and beginners who worry a lot) realize that planning is not merely an attempt to make "things go well" in the classroom; it is also a way to avoid problems. There are numerous planning decisions which, if made appropriately, can decrease the likelihood of having to face problems of student uninvolvement or disruption during teaching. For example, if teachers anticipate which learners can work cooperatively on certain tasks, and select content and activities that are interesting and challenging, then learners are less likely to become uninvolved or to misbehave. Likewise, when teachers sequence material and activities in reasonably logical progression and forecast a pace of instruction intended to maintain momentum in a lesson, students' chances for behaving as they are "supposed to" are improved.

Practice Activity

Bob Yinger (1978) suggests that planning involves three activities: discovering problems, designing strategies to address these problems, and implementing, evaluating, and routinizing plans. For a moment, let's use his model to examine one of your daily lesson plans that didn't exactly work out as you had hoped.

1. Think of any one of your daily plans that failed. (Elementary school teachers might choose a reading or mathematics lesson while high school teachers might select a lesson from their specialty area.)

2. Describe what you wanted to happen in your class (not what went wrong).

3. What materials did you rely on to guide this activity?

4. How much time did you spend thinking about the information you wanted to share with your students?

5. How specific was your plan or script for the lesson?

6. What outcomes did you expect students to achieve?

7. Once you decided what you wanted to happen in the lesson, how much time did you spend deciding how you were going to conduct the lesson?

8. Describe what happened when you implemented the plan.

9. What did you do when you sensed the plan was going awry? Why did you behave this way?

10. In retrospect, what might you have done differently during the class as things began to falter?

11. Did this experience affect your future planning activities? If so, how?

Yinger suggests teachers spend most of their time on problem solving or identification and less on other steps of planning. If you changed plans in midstream, you may have been smart or lucky. According to Yinger, most teachers tend to stick with flawed initial plans to the bitter end. Also, if you answered all or even most of the questions above, you probably spent more time evaluating the usefulness of your plans than is typical. Remember, a seasoned teacher once said, "An ounce of prevention expended planning instruction may save a pound of your flesh during the course of a lesson."

Clearly there are pitfalls in planning instruction for students that successful teachers try to avoid. In one of the most frequently cited studies of teacher planning, Zahorik (1970) noted that teachers who planned instruction (versus those who did not) were less likely to use student ideas in the course of instruction. Gage and Berliner (1975) noted the dangers of rigid planning:

> Planning can make teachers too rigid, too concerned about following their plan, and correspondingly less open to students' ideas. Teachers should beware of trying to achieve what they have planned at the expense of what students can contribute to the learning situation. Especially in the activity of extension, as compared with initiation and encouragement, teachers who plan their lessons should try to remain open and sensitive to their students' ideas . . . Teachers should plan not only the goals, experiences, and evaluations of their students, but also their own interactive behavior. They should consciously plan to open up their classes'

> discussions, reflect upon student comments, and expand their ideas. (p. 673)

When teachers must help learners master difficult, complex concepts and principles, a quite specific, orderly plan might produce achievement of the objectives. If students tend to divert the class from the main objectives of teaching and learning, then fairly rigid planning might be all to the good. Teachers who don't plan might appear to be receptive to students' ideas, but this may be because they have too few ideas of their own (Gage & Berliner, 1975).

Evaluating the Success of Instruction and Planning

There is a chapter in this book devoted exclusively to evaluating instruction, so it is unnecessary to dwell on it here. Instead, let me expand several points raised briefly at the outset.

First, if planning does not help you determine when students are moving forward, something is wrong. Your plans should specify outcomes for students. At least some of the actual outcomes should be related to objectives of instruction, and it is often helpful for them to be measurable. I cannot emphasize too strongly, however, that successful instruction can and should be defined in various ways. Indeed, many desirable outcomes of instruction may be difficult to anticipate. For example, students who develop confidence in themselves because of experiences they have in schools can be said to have learned something worthwhile. You might not write an objective for developing student confidence, or test for it, but when you help students succeed at any of a variety of tasks, confidence is a logical and desirable outcome of instruction, and thus, in turn, an indication of your success as a teacher.

Second, because planning involves making decisions about overall strategies of teaching, when planning is done well it should help you feel organized and be organized. Although some organizational benefits of planning are readily apparent from the beginning of your career in the classroom, you may not appreciate fully how important planning skills are until you teach for a second year. Despite the cynicism of jokes about dusting off the old plans for a new year, there is much to be said on the positive side for trying some things in the classroom a second and third time. Once you have immersed yourself in the curricula for which you are responsible, you are simply better prepared to make teaching decisions the second time around.

Third, your old plans should provide sufficient detail to serve as records of teaching that succeeded and failed. Only when plans serve the record-keeping function can they help you do a better job in the future.

Fourth, good plans make it possible for observers to give you feedback about your performance. When such feedback is related directly to what you were trying to do in the classroom, it can be an invaluable aid in your professional development. If your plans don't imply directions for observers you may need to elaborate. Good plans also provide enough detail to help substitute teachers take over in your absence without losing precious instructional time. This doesn't necessarily mean anyone unfamiliar with your class should be able to read your plans and to do things exactly as you would do them. But your plans should provide sufficient information so that important objectives can be addressed in your absence.

So how might a beginning teacher demonstrate some acceptable level of knowledge about planning instruction? Essentially, he or she must address those components of plans which are commonly recognized as part of the process (i.e., learners' needs and abilities, objectives, teaching procedures such as learning activities, utilization of time, and materials, and methods of evalution). You must also be able to defend your decisions. In other words, it is not enough for professionals to say they are going to teach certain things certin ways; when called upon to do so, they must also explain why.

How might a beginning teacher explain why plans are constructed in various ways? You should turn to sources of information about learners and about curricula that are relevant to your situation. This information may take many forms: learners' scores on standardized tests, observational data and informal assessment results on students' needs and abilities, curriculum guides for a school and/or district, state guidelines for the formulation of instructional objectives, scope and sequence charts for textbook series, reports made by counselors and clinicians, results of research and evalution studies, and the like. Decisions for planning instruction which are based on knowledge from such sources are those decisions which are most professionally defensible. To be sure, the quantity and quality of such information may vary greatly from one situation to another, but professionals seek and use what information exists until it is supplanted by newer, fresher, more relevant information upon which to base instruction.

How might you seek "newer, fresher, more relevant information" beyond those ways already discussed? Perhaps one of the more beneficial ways is to read the professional literature regularly. One of the important attributes of a profession is that it has a body of knowledge upon which to base decisions, and the profession of teaching is now beginning to amass such knowledge.

I am painfully aware of how sanctimonious such a recommendation can sound coming from a college teacher to high school and elementary teachers. You are busy, often tired beyond belief, and already stretched to do more than seems humanly possible. There is more than a hint of truth, however, in the cliche that knowledge is power. Only when you command the knowledge base will you be empowered to make the kinds of decisions you, as a teacher, should make--decisions that others may wish to usurp.

It is beyond the scope of this document to instruct you in methods of exploring the knowledge base on teaching and learning. Instead, let me suggest one good book that will get you started and point you toward some people who should be able to help you. The book is _Applying Educational Research: A Practical Guide for Teachers_, by Walter R. Borg. It was published by Longman in 1981. I don't suggest this as the one and only book, or even as the best--merely as an excellent guide for you to begin cutting through the persuasive (and not so persuasive) prose which often seems to dominate discussion in education. The methods Borg suggests are intended to get you down to bedrock information and to enable you to do so without possessing a Ph.D. in educational research.

You might also seek out people in higher education for leads on good, solid professional information upon which to plan your teaching. You need not enter a graduate program to do so, although for some of you this would be a wise idea. Advanced degrees, of course, do not automatically lead to competence in interpreting or even locating the kinds of information teachers need to make informed decisions in classrooms. Short of degree work, you can talk with researchers and with people who translate research results into practice--many of whom you can identify through professional education organizations.

Some school districts and teachers' organizations, too, offer professional assistance through teacher centers. Centers can be ideal places for exploring information about teaching and learning. Typically, they provide settings where teachers feel free to express themselves and to help one another address common problems. Don't miss attending a teacher center if you have one in your area.

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REINFORCEMENT

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DEFINITION OF COMPETENCY

The competent teacher demonstrates awareness that the skillful use of reinforcement is an effective means of encouraging and discouraging particular behaviors. Establishment of the importance of reinforcement in modifying human behavior and clarification of principles governing its use are two of the principal achievements of research in learning.

PURPOSE

The overall goal of this chapter is to assist the beginning teacher in acquiring knowledge of reinforcement theory. The intended outcome of such knowledge is the demonstrated application of reinforcement theory to classroom teaching and a resultant increase in student social and academic achievement. Review of the chapter material and practice activities will encourage the beginning teacher to: (1) provide students with frequent positive, rather than negative, feedback; (2) emphasize desirable behaviors; (3) clarify behavioral expectations through positive feedback; and (4) decrease or eliminate the use of punishment as a management strategy. The information contained within the chapter will provide the beginning teacher with a basic level of knowledge. However, instructional competence will be achieved only through actual practice of the specified principles within the classroom setting.

BACKGROUND INFORMATION

A good teacher, like a good parent, knows that reinforcement is among the most effective teaching techniques. Although most reinforcement theorists do not agree on the exact techniques which should be applied to any specific situation, there is general agreement among experts on the value of reinforcement as a learning and behavior management tool. A large number of reinforcement techniques have been developed, empirically tested, and proven effective. These include, among others, verbal praise, modeling, token economy, self-management, and shaping. Additional procedures specifically designed to decrease a behavior that is deemed undesirable include removal of reinforcers, response cost, and punishment (Brophy, 1983). In contrast to many techniques, punishment (i.e., the application of an aversive stimulus to decrease an inappropriate behavior) is not advocated as an effective procedure for promoting behavioral changes in most children. A full discussion of these terms, examples of their use within the classroom, and practice activities follow.

Reinforcement

Reinforcement theory has been developing over the last century. A major focus on educational applications has occurred during the past 50 years. Historically, E. L. Thorndike was among the first researchers to use reinforcement as a behavior modification technique and to include it within educational research (Craig, 1967). Thorndike (1905) postulated two laws of science which have had a strong influence on our understanding and use of reinforcement. The Law of Effect, which essentially defines reinforcement, states: "any act which in a given situation produces satisfaction becomes associated with that situation, so that when the situation recurs that act is more likely than before to recur also" (p. 203). The Law of Exercise includes the assertion that a response becomes associated with the situation in which it was made. A psychologist named Watson, working in the 1920s, advocated that only those human behaviors that could be directly observed, and therefore measured, be used as the basis of study. Watson is credited for originating the term "behaviorism," which is now commonly used in reinforcement theory.

Subsequently, B. F. Skinner, who has become the patriarch of behavioral psychology, built upon the works of his predecessors and refined behaviorism into the technical body of knowledge we now employ (e.g., Skinner 1953, 1971). Skinner pursued the notion that a stimulus induces a response (i.e., S-R or stimulus-response theory) and elaborated on what was known about conditioning. Specifically, he said that a favorable response to a stimulus could be expected to reinforce or strengthen a particular behavior. The following is a direct classroom example of conditioning: A teacher who consistently recognizes (provides attention to) only those children who raise their hands will increase the likelihood of hands being raised to gain attention in the future.

Several key behavioral techniques will prove highly useful to the beginning teacher. Each of us is aware of the consequences of our behaviors and whether or not these consequences are sufficiently rewarding to motivate future performance. In essence, these response consequences are reinforcers. A _reinforcer_ can be precisely defined as any stimulus or event which follows a response and increases the occurrence of that response in the future. For instance, if a teacher praises a child's in-seat behavior, and as a result the child continues to remain seated during the rest of the morning, the teacher's praise has acted as a reinforcer. If, however, the teacher's praise does not result in the child's continuing to sit appropriately, the praise cannot be considered reinforcing. Another example is when a teacher writes praising comments on a student's written assignment. Most likely that child will try to repeat the same response patterns in the future.

The above examples illustrate a specific class of reinforcers known as _positive reinforcement_. A "desired" stimulus was presented immediately following the student's behavior/response. Generally speaking, this is the most applicable type of reinforcement for classroom settings. A second reinforcement class is called _negative reinforcement_. According to the definition of a reinforcer, negative reinforcement must increase the likelihood of a response occurring in the future. This is accomplished through the removal of an aversive, or undesired, stimulus. Although limited in classroom use, there are times when negative reinforcement is appropriate within the school. Every teacher has had the experience of increasing attending behavior by closing the door and blocking out distracting noises. In this case, the hall noise functioned as an aversive stimulus that, when "removed," resulted in greater on-task performance.

Practice Activities

1. Tim, who usually never interacts in class, received a star for class participation yesterday. Today he willingly joined in the discussion.

   a. To what might you attribute the change in Tim's behavior?

   b. Is this a reinforcer?

   c. Why?

2. Mrs. Clack says "okay" a lot when she talks to her high school class. It is so annoying that several students choose not to listen to what she says. Ms. Allen, the supervisor, calls Mrs. Clack's attention to this behavior. Mrs. Clack then stops saying "okay." Her students listen much more often.

   a. What is the reinforcer in this situation?

   b. What type of reinforcement is it?

Responses to Practice Activities

1. a. the star he was given

   b. yes

   c. It increased his participation in the future.

2. a. the reduction in the number of times Mrs. Clack said "okay."

b. negative reinforcement ________________

The management of student behavior through reinforcement is based on a complex structure of human needs. Primary reinforcers are those which have an actual biological importance to the individual. These are natural, unlearned reinforcers, such as food, touch, and shelter. Because of the introduction of such things as snacks into the classroom program, it is somewhat difficult to use primary reinforcers with great frequency. Some schools even have preestablished policies against such reinforcement. Teachers who judiciously use primary reinforcers, however, find they are very effective. Few elementary school teachers complete the year without using some popcorn, cookies, and/or drinks as rewards for good behavior or achievement on at least one Friday afternoon.

Secondary reinforcers are essentially social stimuli that have obtained strength through frequent pairing with a primary reinforcer. A secondary reinforcer is behaviorally linked to a primary reinforcer. As a consequence, a conditioned association of one to the other occurs. For example, verbal praise for a very young child frequently is paired with a hug from the parent or is given during feeding time. By the time most children enter school many types of secondary reinforcers have been well established. These include praise, permission to engage in preferred activities, grades, stars, tokens, and the like. These are learned reinforcers which tend to be more appropriate and common in classroom situations than are primary reinforcers. Some types of secondary reinforcers used by teachers often occur fairly naturally during teacher-child interactions. These social reinforcers demonstrate approval or attention, such as positive non-verbal expressions (e.g., smiling), teacher proximity (nearness) to a student, and extension of school or classroom privileges. There may be a child in your class for whom secondary reinforcers have little or no value. In such a case you will need to establish a conditioned association between the secondary reinforcer and a primary reinforcer. Two things to keep in mind are (1) never present a primary reinforcer without pairing it with a secondary reinforcer, and (2) once the association occurs, gradually remove the primary reinforcer.

A specific form of secondary reinforcement that most teachers have at least heard about is token reinforcement. Tokens are nothing more than symbols that are exchangeable for a valued reinforcer. In the world of work, money is an excellent example of a token reinforcer; it is exchangeable for valued goods and services. Within the classroom, tokens can be money, stars, points, chips or anything that can be used to "purchase" a reinforcer such as a toy or free time. To work, a token system must provide:

1. tokens,

2. a clear set of behavioral contingencies by which tokens can be earned,

3. a back-up reinforcer for which a student is willing to work, and

4. a system for exchanging tokens for reinforcement.

The following are advantages of a token system: (1) tokens provide intermediate reinforcement while a student is working toward a larger goal, (2) they allow differential valuing of behavior since different behaviors can earn different amounts of tokens, (3) they teach students to accept delayed gratification, and (4) they are portable and easily distributed unobstrusively (Ayllon & Azrin, 1968). Token systems have been shown to be particularly valuable when working with special education students. Token systems should be adapted to reflect the objectives of a particular class and the needs of the students involved.

There are some concerns related to using a token system. One concern often expressed by teachers is the expense of providing back-up reinforcers of value. Many teachers have overcome this problem by using reinforcers that occur naturally in the school, home, or community. A second area of concern involves keeping track of the number of tokens each student receives. Teachers will need to devise a system by which accurate records are kept. A simple way to record tokens is by posting a list of student names. As each student wins a token, a star or check is placed next to the appropriate name. This type of system is more teacher controlled (and, therefore, tends to be more accurate) than leaving the management of tokens up to students. Providing fairly frequent token exchanges helps to establish a token reinforcement program, but teachers should be aware of the potential for difficulty as the frequency of exchanges is reduced.

Teachers should also realize that token economics may reduce intrinsic motivation. This occurs when the tokens are more important to students than the satisfaction of having completed the targeted task. Under such circumstances, motivation becomes extrinsic, and students stop working when the economy is withdrawn. Moreover, if students begin to value the tokens more than the task for which the reinforcement has been given, the system may actually lead to stealing, bribing, and hoarding. This is more likely to occur in large classes, where token systems are more difficult to monitor. Teachers who establish token economics must therefore carefully keep track of the system. They should also be sure to pair social reinforcement with tokens and to decrease gradually the frequency of token exchanges.

Practice Activity

During the next 2 or 3 days become aware of the types of reinforcers you use in your teaching routine. Make a list of all you have used and label each one as positive or negative reinforcement and as primary or secondary reinforcement. Remember to label fully each rewarding consequence (i.e., a good grade is a positive-secondary reinforcer.)

Selecting Reinforcers

You should also note that reinforcement may need to be tailored to specific individuals. That which is reinforcing to one student may not be to another. In addition, some rewards are applicable to groups of students while others are not. Therefore, the first consideration is the selection of reinforcers. Invalid assumptions regarding what should be reinforcing to a student or students are frequently responsible for the failure of the behavioral program. It is advisable to offer a reinforcement menu (i.e., reinforcement selection) that allows students to indicate which consequences are most rewarding to them. Creating personal profiles that students can complete (and update throughout the year) is one useful technique. An example of a reinforcement profile is given in Box 1 on the following page. Be sure to examine the questions in order to select those that are age-appropriate for the children you teach. You may wish to add questions of your own to get a more comprehensive picture of each student's preferences.

It is important to note that praise and some other social reinforcers often lose their greatest effectiveness after the lower primary grades. In addition, a teacher in a class of 25 or 30 students is bound to have trouble keeping track of all the desired behaviors which occur and at best can only do a hit-or-miss job of reinforcing. Therefore, a variety of reinforcement options should be established to match consequences with the preferences listed in the profile. Box 2 lists a number of reinforcers available in most teaching situations. Some are appropriate for a particular age level while others generalize across all grades. You may want to add to this list any reinforcers you have found useful. As you go through the list, place an "*" by the ones you feel would work within your situation. Remember to check a student's reinforcement profile before selecting performance consequences.

Box 1
Reinforcement Profile

1. The thing I like best about school is ______________________________.

2. I feel really good when someone tells me that I ______________________________.

3. The school subject I like best is ______________________________.

4. My favorite snack is ______________________________.

5. If I could do anything in school that I wanted, I would ______________________________.

6. If I could do anything at all that I wanted to, I would ______________________________.

7. The thing that makes me enjoy school the most is ______________________________.

8. In my free time I like to ______________________________.

Box 2
Classroom Reinforcers

receiving smiles, winks, etc.

using the gym, library during unassigned time

getting stamps, stickers

making a phone call home

eating lunch with teacher

bringing comic books to read

writing notes to a classmate

being line leader

getting chance to solve codes, puzzles

getting time to spend in student lounge

getting peer recognition

getting good grades

being a hall monitor

getting photo in newspaper

getting free time

watching films

selecting the time for completing assignments

videotaping

working with a volunteer

grading papers

assisting custodian, secretary, etc.

getting snack

choosing a special work spot

speaking over address system

using a calculator

working at teacher's desk

getting a coke from the lounge

using felt tip pens

spending a day interning with a local business

displaying progress

getting no homework

assisting in another room, grade

getting permission to miss a test

participating in special project

taking class roll

using tape recorder, micro-computer

creating a bulletin board

having a class dance in the room

other

Reinforcement Guidelines

There are some basic principles of reinforcement which can be used as guidelines when establishing a behavior change program. These are

1. Concentrate on the use of positive reinforcement as a consequence of a desirable behavior or of improvement in a desirable behavior.

2. Deliver reinforcers immediately following the desirable behavior.

3. Apply reinforcement directly to the target student (don't be subtle).

4. Allow the child to select the reinforcer whenever possible.

5. Use continuous reinforcement while establishing a behavior, then use intermittent (occasional) reinforcement to maintain it.

6. Use large amounts of the reinforcer at first, slowly reducing it after the behavior is established.

7. Reward small steps (improvements) with the goal of building toward more complex behaviors.

Increasing Desirable Behavior

Using a reinforcement system to manage a number of students who demonstrate a variety of traget behaviors is a difficult task. Teachers recognize a need to motivate students to be responsible for their own behavior. One of the most positive outcomes of reinforcement is that students can learn to think about the personal consequences that result from their actions. Some of the more effective techniques for increasing student responsibility are contracting, prompting, modeling, and teaching self-management.

Behavioral Contracts

Contracting involves a written statement developed by the student and the teacher in which each agrees to act in certain ways. In general, a contract fits within an "if-then" statement that focuses upon a targeted behavior and the resulting consequence. Specific procedures for establishing a contract are given below, and a sample contract for a young child is presented in Figure 1 (see next page). Secondary level teachers who wish to use a contingency contract are encouraged to do so. For an older child a contract can be designed following the basic contracting principles but within a format similar to those of actual business agreements. The following are guidelines for designing a behavioral contract:

1. Fit the terms of the contract to the model and state them clearly: "If first you do X, then you may do (or will get) Y."

2. Specify the task, being concise about the criteria (e.g., the amount of work the student must complete, the level of accuracy required, the time limits involved).

3. Identify a reinforcer. The appropriateness of the reinforcer depends on the child's reinforcement history and the targeted task.

4. Establish a method of checking progress.

5. Sign the contract.

6. Be sure that both you and the student meet the terms of the contract.

Contracting is helpful to teachers who wish to raise students' level of awareness regarding their behavior. Contracting is most effective when (1) students are permitted to participate in the establishment of their behavioral goals and the corresponding contingencies, and (2) students and teachers refer periodically to their contracts.

The key to successfully using contracts is to select a task that is appropriate for the student's current level of performance. If the student is just acquiring a skill, be sure to include some instructional component such as guided practice (i.e.,

Figure 1. Contract Format

IF I AM A WIZ AT . . . .

____

____

____

____

(TASK)

THEN I CAN . . . .

____

____

____

TO BE CHECKED . . . .

____

____

____

STUDENT'S SIGNATURE DATE

____

TEACHER'S SIGNATURE DATE

practice involving close supervision and immediate feedback). If the contract is to be completed without teacher assistance, then don't select tasks beyond the child's independent level (i.e., 90% accuracy rate). This will alleviate the problem of the student's agreeing to a contract she or he cannot keep and then "testing the system" to see what aversive consequences will occur. Proper selection of the contract tasks reduces the threat of failure and increases the positive consequences of success. Periodic renegotiation of the contract may be necessary in order to match the task with the appropriate objective.

Practice Activity

A classroom teacher has asked you to help design a contract for each of the following classroom situations. See if you can do it.

1. Jay is 9 years old, active in sports, and has lots of friends. He is having trouble learning his multiplication tables. In the past, for basic computation, he has relied on finger counting. Now the teacher wants to teach the rote skill of multiplication at an acceptable performance rate.

2. Wendy has been absent from high school a lot this year. Her teacher has told you that she is working at her mother's beauty salon on the days that she misses school. When you spoke to Wendy she seemed very excited about the status and the money she received by working.

Work plans. To avoid some of the concerns associated with contracts, it may be preferable to choose the alternative procedure of work plans. Work plans are designed as a collaborative agreement between the student and the teacher. The teacher selects the goals and objectives to be completed in a given time period, while the student develops a plan of study and activities. After sharing the plan, the teacher and student negotiate the work schedule based upon the student's original product. If renegotiation is necessary, the student should remain in control since the student is the one who requests the reassessment. No external reinforcement is provided. Instead, the student is rewarded by the opportunity to follow his or her own plan. Students who are self-directed and capable of taking on responsibility for their own work would be excellent candidates for a work plan program.

Prompting

Another technique intended to increase the probability that a behavior will occur is prompting. A prompt may occur in visual, physical, or verbal form and is best described as a supplemental stimulus that helps elicit a desired response from students. The teacher who holds up a flashcard (2 + 3 = [ ]) and says, "Two plus two equals four. Three is one more than two, so two plus three equals what?" is using a verbal prompt. A science teacher who writes critical vocabulary words and their definitions on the board for students to refer to during class is using a visual prompt. A prompt works as a support for a child who is in the initial stages of learning a skill or concept. According to Alberto and Troutman (1982), "The use of prompts increases teaching efficiency. Rather than waiting for the student to emit the desired behavior, the teacher uses extra cues to increase the number of correct responses to be reinforced" (p. 243).

Two specific examples of verbal prompts that teachers use often and at which they should be highly skilled are rules and directions. Rules are often given by teachers as a cue before asking a child to respond to a direct question (e.g., "'Q' is always followed by 'U'. How do you spell 'queen'?"). In other instances, a teacher will refer a child to a rule in order to correct an error (e.g., "A noun is a person, place, or thing. Is 'run' a noun?") Rules also apply to behavior and a teacher can therefore prompt students as to how to behave during a lesson (e.g., "I will only call on people who raise their hands."), on the playground (e.g., "Remember our playground safety rules."), or in any social situation (e.g., "Be sure to say hello and to shake hands.").

"Follow the directions" is a common statement in any classroom. Yet, as any teacher knows, not all children can, or do, follow directions when told to do so. Directions act as a verbal prompt only when a child's behavior is under the stimulus control of a direction. A child who does not respond appropriately to directions may need to be taught to follow detailed directions by breaking instructions into simple, precise units and reinforcing each successful step. The teacher may need to provide specific practice in following directions. For example, "Put your finger on the rectangle in the upper left hand corner of your paper, now, write your name in that space," is a direction that can eventually be reduced to "Write your name on the paper," once the child is brought under stimulus control.

Practice Activities

Mr. Ultra is teaching a seventh-grade American history lesson on governmental powers. He wants the students to learn that different branches of government exert different controls in the democratic process.

1. In his class, Mr. Ultra has both a very bright student, Pat, and a slow achieving student, Lesley. When asked to state the three branches of the federal government Lesley hesitated and said "executive, legislative, . . ." but was unable to go on. Mr. Ultra decided to prompt Lesley. What would be an appropriate prompt that he could use?

2. Later in the lesson, Pat was discussing the control of power when he said the veto was used by Congress. Mr. Ultra was sure Pat new the correct answer and was just confused. What could the teacher say to prompt him?

3. Another fact Mr. Ultra wanted to be sure his students understood was the difference between the legislature's making the law and the judiciary's interpreting the law. Before calling on Ronny, an

average student, Mr. Ultra cues him to be certain that Ronny will give the correct answer. What could Mr. Ultra say to reduce Ronny's chance of error?

4. Mr. Ultra has also been working with his class on outlining skills. After the government lesson, Mr. Ultra tells the class to outline what they know about each branch of government. To be sure they use the correct format, Mr. Ultra provides a prompt for the whole class. What type of prompt would be appropriate?

Responses to Practice Activities

(These answers are given as examples only.)

1. "The last branch of government involves the court system."

2. "The President can veto the Congress, but how does Congress check the presidential power?"

3. "The laws are made in Washington and carried out in the courts around the country."

4. A visual prompt showing a traditional outline format.

Modeling

Modeling is the demonstration of a behavior. When a child who is reading out loud stumbles across a word, most teachers provide the correct response, that is, they model the word. Modeling is particularly valuable when attempting to elicit behaviors that are completely new to the student or are of an advanced level of complexity. It is used when verbal or visual cues are insufficient and it is therefore considered more intrusive than regular prompting. Although it should be clear that a demonstration is the technique of choice for a science teacher showing the use of lab equipment, there are also other times when a teacher will want to use modeling when less intrusive prompts have not led to the correct response. Most students are able to respond efficiently to instructions that include a model.

Teachers also need to be aware that students will imitate the behaviors of other classmates as well as of teachers. Peer imitation occurs throughout the grade levels and perhaps is strongest in the social grouping at the secondary level. Students will be more likely to imitate a model (person demonstrating the behavior) who:

1. has high status,

2. is acknowledged to be competent, and

3. is similar to themselves.

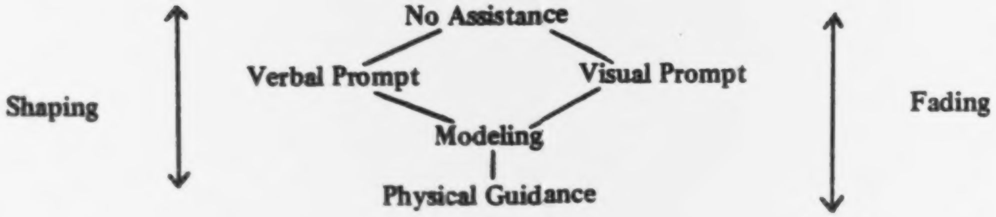
Although students will often imitate even if they are not reinforced for following the model, adding reinforcement to the procedure can be effective. It is also important to note that when the model is reinforced, the likelihood of imitation occurring is increased. When reinforcing a peer model, the teacher should clearly specify what behavior of the model is being reinforced. For instance, if the teacher wants to increase hand-raising behavior and reduce talk-outs, and Sheri raises her hand to answer, the teacher might say something like, "I'm glad you raised your hand before answering" rather than something vague like, "Good for you!" By specifying the behavior being reinforced, the teacher helps all of the students understand what constitutes the appropriate behavior.

Shaping and Fading

Prompts are often used to *shape* or develop a behavior and to assist the student in making the correct response so that reinforcement can be applied. By reinforcing a planned sequence of closer and closer approximations to the correct response the teacher is more likely to guarantee that the child will eventually demonstrate the correct behavior. The development of legible handwriting is a good example of when teachers should and do reinforce closer approximations to a standard form. Shaping is also often used when a child is asked to read. A teacher may at first reinforce any attempt at a new word that begins with the appropriate initial consonant. Later, more complex word analysis will be required to gain reinforcement.

Of course, the goal for any teacher is that students eventually become sufficiently conditioned to exhibit desired behaviors without any form of prompting. This is generally accomplished by the gradual withdrawal of teacher intervention. This reduction of prompts from more to least intrusive, and ultimately to no teacher assistance, is known as _fading_. Figure 2 shows the sequence of prompts in the order of teacher involvement for developing a behavior and for fading teacher assistance.

Figure 2
Sequence of Prompts


No Assistance
Verbal Prompt
Visual Prompt
Shaping
Fading
Modeling
Physical Guidance

Practice Activities

Label each instructional example according to the technique the teacher is using, either "F" (fading) or "S" (shaping).

1. The lesson is on object words to be included in a sight vocabulary. The teacher places each word within an outline of the object. Slowly she begins to remove the outline, leaving just the word to be read.

2. Katie is learning to write complex sentences. The teacher reinforces each attempt which builds on a previous, less complex sentence.

3. Ms. Owen has a fairly disruptive class this year. Upon realizing this, she began with a very structured program in which she repeated three class rules at the beginning of each lesson and repeated them once during the lesson. Gradually she has been reducing the emphasis upon rules. Her intent is to only have to remind the students occasionally about the rules by Thanksgiving.

Responses to Practice Activities

1. fading
2. shaping
3. fading

Self-Management

If getting students to take responsibility for their own behaviors is a primary goal of all education, then teachers should keep this in mind as they develop instructional plans. One fairly recent technique, but one that has been researched and proven effective, is cognitive behavior modification (CBM). CBM involves the manipulation of internal thoughts as a means of effecting behavior change. CBM basically consists of two steps: (a) directly instructing or demonstrating a strategy for correct performance, and (b) teaching a set of verbalized self-instructions to carry out the behavior (Meichenbaum, 1977). Examples of CBM in classroom settings include having a child verbalize to himself a set of "teacher pleasing behaviors," such as remembering to: (1) be on time, (2) stay in seat, (3) raise hand, and (4) be prepared. These silent reminders along with a cognitive image of getting a positive reaction from the teacher will help the child gradually to change his or her behavior.

Another self-management technique is self-control, in which the child takes increasing responsibility for her own behaviors (both academic and social). As defined by Bandura and Perloff (1967), self-control requires the individual to:

1. perform a self-assessment to determine how well the target behavior was performed,

2. self-record the frequency of the target behavior, and

3. determine the type and amount of reinforcement to be given, contingent upon the demonstration of the target behavior.

Teachers will want to plan for students to be increasingly responsible for their own behaviors. Alberto and Troutman (1982) recommend several techniques for helping students achieve this goal:

1. Explain reinforcement: as reinforcement is given, the teacher explains what behavior resulted in reinforcement (e.g., "Jeff, you did an excellent job editing your paper before handing it in.").

2. Relate contingency: the teacher asks the student to state what the contingent response is to a target behavior (e.g., "Carol, what is going to happen

to your recess time if you continue to leave your seat instead of completing your work?").

3. Self-reinforcement: the teacher invites student participation in selecting reinforcement and determining the reinforcement value (e.g., "How many problems do you think you can complete today and what would you like to do if you reach your goal?").

Self-management procedures have the decided advantage of prompting positive behaviors without dependence upon external stimuli such as a certain teacher, a set classroom routine or a single situation. Therefore, self-management techniques enable students to generalize appropriate behaviors across time and setting.

Practice Activity

Match each self-management technique with the appropriate example.

1. cognitive behavior modification
2. self-reinforcement
3. self-control
4. explaning the reinforcement
5. relating the contingency

(a) "Elise, you did 4 sentences correctly. You get 2 points for each sentence."

(b) John repeats to himself the rules for editing a composition and then reviews his essay.

(c) "Elliot, these are the possible reinforcers. Which one would you like and how many problems do you think you should complete before getting reinforcement?"

(d) "Julie, what did you do? How many stars do you get?"

(e) Marty is responsible for checking his work, giving himself a grade, and recording his progress.

Responses to Practice Activities

1. b

2. c

3. e

4. a

5. d

Delivering Reinforcement

The delivery or timing of reinforcement is readily adaptable to specific individuals and situations. Known as the _reinforcement schedule_, the rate of delivery influences the effect of the reinforcement. Several types of reinforcement schedules exist. The most common is _continuous reinforcement_, in which the student is reinforced for each performance of the target response. For example, every time Tim answers in a complete sentence the teacher praises his response. In contrast, _intermittent reinforcement_ is given for some, but not all, occurrences of the behavior. When grading papers, Ms. Dorry writes "good" next to certain passages but not next to all acceptable passages; she is using an intermittent schedule. Because of the number of responses made in the typical classroom during the course of a day, let alone over the years, it is literally impossible to reinforce each behavior. In fact, continuous reinforcement is desirable only during the _initial_ stages of learning a skill or concept, when the student needs constant feedback as to the appropriateness of the response. Once the concept is learned (i.e., when it is within the child's repertoire), intermittent reinforcement is preferable. Skill maintenance and long-term retention of learning is increased through intermittent reinforcement. Therefore, teachers should plan on using continuous reinforcement when beginning either an academic or behavioral program and on reducing or "thinning" the schedule to occasional reinforcement as the child progresses.

Collecting and Recording Data

An effective method exists for gathering information concerning student progress toward a target behavior. The level of behavior displayed before a reinforcement or any intervention program begins is referred to as baseline performance. Specific information related to the student's performance (i.e., data) should be collected on a regular basis. It is helpful to graph performance during baseline and intervention in order to achieve a pictorial representation of the program's effects. Such graphs understandably make a student's progress or lack of progress easier to demonstrate than purely verbal descriptions. There are several ways to record data, including frequency, duration, latency, time sampling, and interval recording.

1. Frequency is a simple count of how often a response occurs: "The child read ten words."

2. Duration refers to the length of time any response lasts: "John spoke for three minutes."

3. Latency measures the time between a given stimulus and a response: "After the teacher said be quiet, it took two minutes for the group to come to order."

4. Interval recording allows the teacher to sample a behavior during equal intervals of time. Rather than count the number of times a behavior occurs, the teacher counts the number of intervals in which the behavior was observed to occur at least once: "Within five out of ten of the two-minute intervals the teacher observed, Denise was on-task."

5. *Time sampling* is a variation on interval recording in which the student is observed and the presence or absence of the behavior is noted only at the end of the interval: "At the end of eight intervals the teacher looked at Dan and saw that he was out of his seat."

For the purpose of graphing recorded data, time--stated in increments that apply to the situation--is generally used as the independent variable appearing on the horizontal axis of the graph. The dependent variable, of course, is the particular behavior being targeted for change and is graphed on the vertical axis. Figure 3 (see next page) is a sample graph of "correct responses" during eleven reading sessions for one child. During the last seven sessions, the teacher tried a new way to teach reading. This was the "intervention." The student's progress is effectively noted through the graphic display.

Practice Activity

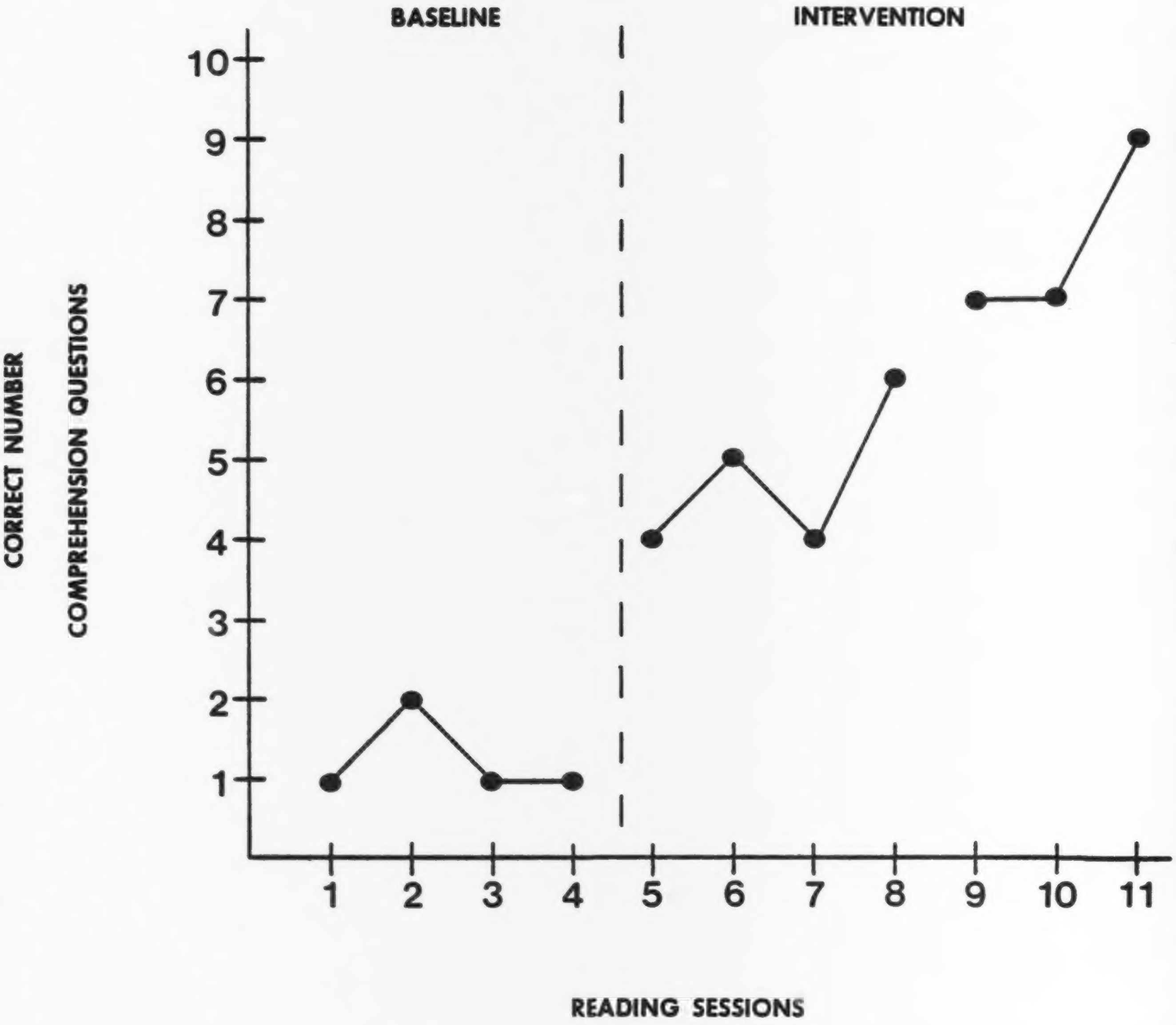
Do you ever collect data on student progress in your classroom? The answer should be yes. Even if you are only recording grades you are collecting data. As you apply more reinforcement techniques it will be useful to gather information more frequently.

Select a behavior to observe. Decide on a recording technique and record baseline information for 3 to 5 days. Be sure to analyze what you record.

Reducing Inappropriate Behavior

Most people think that punishment means the introduction of an aversive consequence following an inappropriate behavior. However, any intervention that is presented following a particular behavior and that reduces or eliminates that behavior is, technically, a punishment. Some punishment techniques involve the removal of positive reinforcers when inappropriate behavior occurs. Two such "positive punishment"

Figure 3. Graphing an Academic Behavior



techniques are extinction and response cost. Following are brief descriptions of these techniques, along with a discussion of the more well-known "negative punishment."

(It is important to emphasize the difference between negative reinforcement and punishment. As stated earlier, negative reinforcement involves the removal of an unpleasant stimulus and results in an increased likelihood of the behavior occurring; punishment is designed to decrease the probability that a particular behavior will occur.)

Extinction

Extinction refers to the elimination of a behavior by withholding reinforcement. In many instances, this can be accomplished by removing teacher attention. For example, whenever Susan jumps out of her seat the teacher is certain to say something to her, but no matter what is said, Susan keeps popping up. In this case, it is possible that Susan continues to leave her seat as a means of getting her teacher to notice her. When the teacher first stops reacting in a typical manner to Susan, the student's out-of-seat behavior gets much worse. But the teacher continues to ignore Susan and eventually the behavior decreases. (The initial increase in the undesirable behavior is a frequent occurrence whenever an attempt is made to extinguish a behavior, so all teachers should anticipate a "tough" period before things get better.)

Another note of warning: Be sure you have pinpointed what is reinforcing the behavior. If you remove what you think is the reinforcer and the behavior continues over time, check again. Something else is working to reinforce the behavior. A good illustration of this is when one child acts as the class clown. Most often it is not teacher attention but peer reaction that is reinforcing this behavior. Unless the teacher can control each class member and assure that no reinforcement will be given, extinction should not be the technique of choice.

Response Cost

In this procedure the teacher removes units of reinforcement each time an inappropriate behavior occurs. Implicit in the definition is the fact that response cost is only effective if some level of positive reinforcement already exists. Taking away points or units of free time is a good example of a response cost technique. For instance, when Elisa continued to swear in class, even after being reminded of the rule against such behavior, the teacher began to reduce recess time by three minutes for each subsequent swear.

Negative Punishment

The behavior reduction procedure teachers are most familiar with is negative punishment. This type of punishment involves the introduction of an aversive stimulus such as spanking or scolding following an undesirable behavior. If, after the aversive stimulus is applied, the behavior has not decreased, then by definition punishment has not occurred. Nevertheless, teachers often label a consequence as punishing even without the resultant decrease in behavior.

Negative punishment should only be used as a consequence of an extremely undesirable behavior and then only as a last resort. The common use of punishment as a means of controlling behavior within classrooms probably is a by-product of punishment being used so commonly as a child-rearing practice. However, there is little to support the use of any sort of punishment as a technique to motivate learning. What the application of punishment does is: (1) stop the immediate occurrence of an inappropriate response, (2) provide a discrimination between an acceptable and a nonacceptable behavior, and (3) demonstrate a clear behavioral consequence to other students watching the presentation of the punishment. Although the application of punishment can be reinforcing to a teacher, since it puts an immediate end to the annoying behavior, it has not proven as effective as other proceudres over the long-term.

If a teacher feels it is necessary to manage behavior by applying punishing consequences, it is important to realize that the most effective strategy is to pair punishment of an undesirable behavior with reinforcement of a desired behavior. In this way, a student not only learns what not to do but also what is an appropriate form of responding. Rather than just being "put down," the student has an avenue by which to achieve success.

Practice Activities

1. Examine your procedures for reducing behaviors in your classroom. List each situation and the reducing consequence you apply. Note the type of punishers you use and analyze the result of the punishment. Is it working? If not, stop what you are doing and find another way.

2. Based on your understanding of behavior-reduction procedures, rate each of the following statements as either true or false.

a. An effective means of encouraging student learning attempts is to criticize any incorrect response.

b. Negative reinforcement and punishment have the same effect on behavior.

c. A teacher whose attention has been reinforcing a student and who now ignores a student who shouts out during a class discussion is using extinction.

d. Whenever any reinforcer is withheld, extinction will occur.

e. Jeff never comes to school prepared. The teacher begins to take points off the assignment grade each time Jeff is unprepared. This is an example of a response cost procedure.

Responses to Practice Activities

2 a. F

b. F

c. T

d. F

e. T

Conclusion

Reinforcement is a powerful tool that can increase student academic and behavioral gains. Teachers who are adept at providing reinforcement are also successful at motivating students to learn. The array of techniques available to the teacher offers options suitable for almost any teaching style and/or classroom problem. The more the teacher knows about reinforcement and the related behavioral strategies, the more exciting the learning environment will be. Each beginning teacher will need to "experiment" at times. However, the wealth of available information related to reinforcement strategies should be used as a resource. Many of the problems experienced in your classroom have presented themselves in other classrooms before. Read about behavior management principles. Observe how respected teachers (or parents and employers) apply reinforcement to increase or decrease behavior. Then make modifications to suit your situation. Understanding and applying reinforcement is central to successful teaching.

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CONSISTENT RULES

SCHOOL RULES

1. BRING NEEDED MATERIALS TO CLASS
2. GET PERMISSION TO LEAVE SEAT
3. RESPECT OTHERS

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DEFINITION OF COMPETENCY

The competent teacher knows rules for classroom behavior must be clear so that learners understand and accept the rules and the consequences of violating them. When rules are unclear or applied inconsistently, teachers will have difficulty managing classrooms.

PURPOSE

The purpose of this chapter is to help you understand the importance of establishing and maintaining a system of rules for your classroom to facilitate a well-organized and well-managed learning environment. Teachers who are successful classroom managers set rules that are known and understood by all learners. These teachers also monitor rule adherence of their students throughout the school year. Once a rules system has been made a routine part of classroom activities, effective classroom managers demonstrate techniques that tend to prevent many infractions of the rules.

BACKGROUND KNOWLEDGE

"Don't smile until Christmas!" "Give them an inch, they will take a mile!" "Be firm, fair, and friendly!" Do these bromides sound familiar? They should because almost everyone who knows that you are beginning a teaching career has advised you how to run your classroom and avoid discipline problems. Many of the "gems of wisdom" shared with you focus on ways to set up these rules and regulations not only for control but for organizational purposes as well.

It may comfort you to know that others also perceive classroom management issues as a major problem in American schools today. The Phi Delta Kappan annual Gallup Poll (Gallup, 1984) reported that the American public's number one concern about public education during the past year was discipline. In fact, discipline has been listed as a top problem in American schools for 15 of the last 16 years. In this chapter we are going to examine research efforts related to establishing and maintaining a rules system that may alleviate classroom management concerns.

You want to set up an effective learning climate in your classroom, but you have many questions: How does an organized, well-managed class operate? What rules do you need to implement and enforce? What guidelines are now available to help you? In the past, classroom management issues have been synonymous with discipline; however, "management" is typically interpreted in broader terms today. Emmer and Evertson (1981) defined classroom management as "teacher behaviors that produce high levels of student involvement, minimal amounts of student behaviors that interfere with the teacher's or other students' work, and efficient use of class time" (p. 342).

According to Brophy (1984), a well-managed classroom reflects the results of teacher organization and planning. The room is set up for efficient use of time and space; teachers have clear goals for learning activities and quickly move students from one activity to another. Arlin (1979) observed that students in this type of environment seem to know what to do, how to do it, and what materials they need. To an untrained eye these classrooms seem to operate automatically with the teacher serving as active facilitator in the learning process and not being burdened with management concerns. Brophy suggests this classroom atmosphere occurs when the teacher has systematically and consistently planned and implemented rules and procedures to govern all activities.

How do teachers make management plans appear to implement themselves automatically? Let's turn to research studies that have focused on observations of classrooms to determine what teacher behaviors or actions distinguish effective classroom managers from those who are less successful. First we will review the research findings of Kounin (1970), which have been used as the basis for the study of classroom management in the past two decades. Specifically, we will examine teacher behaviors that tend to alleviate student deviancy in classrooms. Next, we will review recent research studies that have investigated how ineffective and effective classroom managers plan, implement, and monitor classroom rules systems.

Kounin's (1970) work has been influential in helping unravel classroom management problems. In his initial work he proposed to determine the difference between effective teachers (those who had high rates of student work involvement and low rates of student deviant behaviors) from ineffective teachers (those who struggled to manage their classrooms). He analyzed videotapes of teachers in 79 urban and suburban classrooms. These classrooms were divided into two groups: (1) those that were well-ordered and managed with students exhibiting on-task behavior, and (2) those that showed low student work involvement and many student misbehaviors. Kounin expected effective teachers to handle student disruption differently from ineffective teachers, but this was not the case. Instead he found that what distinguished the two groups were teacher behaviors which prevented the types of disruptions that happened frequently in the poorly managed classrooms.

Two of the concepts derived from Kounin's research are pertinent to our discussion of consistent rules. These are important because they facilitate the implementation of classroom management rules. Kounin found that effective teachers demonstrated what he identified as "withitness." He referred to withitness as the teacher's ability to have "eyes in the back of the head." According to Kounin, a "withit" teacher knows what is going on in the classroom at all times and is sensitive to potential disruptive situations, moving to halt deviant behaviors before they increase in severity or spread to other students. The teacher displaying withitness is also able to identify the appropriate student target--the one who is the initiator of the potential or beginning misbehavior. Further, an effective teacher can easily recognize differences between serious and nonserious problems in the classroom and can take immediate steps to eliminate serious misbehaviors while ignoring the trivial.

The ability to "overlap" is also important for enforcing classroom rules. A teacher is often involved in performing several classroom tasks simultaneously. The better a teacher can attend to more than one task, the more overlap he or she is said to demonstrate. For example, an elementary teacher may be working with a reading group and asked to respond to another student's question. The degree to which a teacher can handle two or more events smoothly and without seriously ignoring any one student or group of students, the less likely it is that disruption or deviant student behavior will occur.

Texas researchers Emmer and Evertson (1981) conducted a study in elementary classrooms throughout the school year with the goal of trying to distinguish between teachers who consistently had students who were high achievers and teachers who had low achievers. Their findings, based on standardized test scores, confirmed the earlier observations of Kounin--student achievement was higher in classes that had few student misbehaviors and had a teacher who was well organized and who quickly moved students through scheduled academic activities. Additionally, the effective teachers rarely blamed the wrong student for a deviant behavior. _Relatively few rules were needed to guide the class, but those that were in place were clear, well explained, and consistently monitored_ (Emmer & Evertson, 1981; Anderson, Evertson & Emmer, 1980).

On closer observation the University of Texas researchers found that effective teachers spent more time _teaching_ their students the rules, much as they would any academic subject, during the first few weeks of school. These teachers presented their students with the rules and reasons for them on the first day and focused on the use of these rules in the first few weeks. Teachers explained the rules, gave examples, answered questions, allowed for practice, and provided student and teacher modeling of correct practices and procedures. The consequences for inappropriate behavior were clearly stated and applied quickly and consistently. When a student didn't follow correct procedures, the teacher reminded the student of the rule or requested that the student state the rule and its consequence. As a result, effective classroom managers spent a lot of time implementing and monitoring a rules system at the beginning of the year, but once the rules were installed these classes tended to have the "automatic" quality described earlier. Moreover, during the year these teachers spent less time on management issues than did ineffective teachers

(Evertson & Anderson, 1979; Anderson et al, 1980). Moskowitz and Hayman (1976) also found that "best" teachers organized routines that established rules and expectations on the first day of school.

Effective teachers also differed in the ways they prevented and reacted to student misbehaviors. As was the case in Kounin's research, the Texas team found that once an infraction of a rule occurred there was little difference between the way both groups of teachers (effective and ineffective) dealt with the misbehavior. By maintaining active involvement with students, effective managers were aware of problems before they began. Emmer, Evertson and Anderson (1980) observed that effective teachers tended to do one of three things when they perceived a deviant behavior was developing: signal the appropriate behavior by using a prearranged sign that alerts students they are not on task, establish eye contact with the student, and use a variety of rewards to reinforce those students who stay on task and observe classroom rules.

Regardless of how well rules are made an intergral part of classroom learning environment, some students will misbehave. If this occurs, effective teachers tend to act immediately to stop the misbehavior. Effective teachers also clearly identify the student responsible and often cite the specific rule that is being violated. When effective teachers deal with inappropriate behavior, they do not use sarcasm or punishment, nor do they threaten or warn students. In applying consequences, these teachers use milder, more informative types of punishment, such as explaining why a behavior is inappropriate.

Emmer and his colleagues (Emmer, Evertson, Sanford, Clements, & Worsham, 1982) cautioned that inconsistency in rule monitoring conveys to your student "an arbitrary use of authority . . . resented by those whom the teacher chose to punish; it would teach those who were let off that they had a special privilege and confuse all of the students" (p. 99). Students want structure and predictability and will test the limits of the rules to determine how they will be enforced. The Texas research team claims that inappropriate behavior will increase if rules are not consistently applied to all students. Consistency in enforcing rule violations may be modified under two conditions. First, if a student has a legitimate excuse for breaking a rule, you may wish to examine the extenuating circumstance. If the class is aware of the rule violation, you should offer an explanation as to why an exception was permitted. Second, don't be afraid to change rules. After you plan and implement your rules, don't hesitate to evaluate the practicality or need for each rule and to discard or change those rules that don't accomplish your objective.

Follow-up research at the secondary level tends to support the conclusions drawn in the elementary studies (Evertson & Emmer, 1982; Sanford & Evertson, 1981). Although teachers at the secondary level need less time to teach rules, Good (1984) reported that Emmer and Evertson (1981) found effective classroom managers "set clearer expectations for behavior, academic work, and classroom procedures during the first several class meetings than did less effective managers" (p. 61). These same effective managers were actively involved with students and stopped inappropriate behavior quickly. Stanford and Evertson (1981) emphasized that secondary teachers not only needed to teach rules at the beginnning of the year but also to monitor consistently their compliance throughout the year. Their year-long study revealed that in the classroom of ineffective managers the rate of inappropriate behavior increased 50% by the middle of the year. In contrast, in the classrooms of teachers who spent time introducing rules and procedures at the beginning of the year and who consistently followed through on monitoring the rule system, inappropriate behaviors decreased.

* * *

What classroom rules are going to help you have a well-organized room and ensure the efficient use of time? It would be inappropriate to delineate a list of rules because each of you has unique needs and concerns that should be addressed by your own rule system. Emmer and his colleagues (1982) noted that rules differed among effective classroom managers, but that all effective teachers had some set of rules for classroom procedures. Emmer and his colleagues have developed an organizational framework that may be useful to you as you formulate the rules and procedures that would be most appropriate for your classroom. The following Practice Activity is adapted from two manuals developed by the Research and Development Center for Teacher Education at the University of Texas at Austin (Emmer et al., 1982; Evertson, Emmer, Clements, Sanford, Worsham, & Williams, 1981).

Practice Activity

Answer the following questions about instructional and noninstructional activities as they apply to your own classroom.

1. During your classroom instructional activities:

a. How will students inform you if they have questions or need help? Where will you work with individual students who need extra help?

Most effective managers require students to raise their hands in order to be called on. When students are working at their seats and need help, you should have them raise their hands so that you may go to them or they may come to you.

b. Under what conditions may students leave their seats?

To eliminate unnecessary wandering around the room, you should indicate when students are allowed to leave their seats.

c. Under what conditions will you allow students to leave the room to go to the bathroom or other locations? What procedure will you follow for allowing students to leave the room?

This procedure must be established early in the year and consistently followed. Students should not be allowed to leave the room except in emergencies, as determined by the teacher.

d. What signal will you use to get the students' attention?

Some of the techniques used by teachers include ringing a timer bell, turning on the lights, sitting down by the overhead projector, standing by the chalkboard, or using a particular phrase such as, "Let me have your attention."

e. Will you allow students to talk to one another and/or to work together during seatwork or learning center activities?

If this will be allowed, you will need to establish specific limitations. For example, you may say that during certain activities you will allow quiet talking, but if the talking gets too loud, then the privilege will be lost.

f. What will students do if they complete seatwork or a learning center assignment early?

If you have enrichment activities for students who work more quickly, you will need to specify rules for using materials.

g. What kinds of equipment or materials will require special instructions or a demonstration?

Instructions are usefully displayed each time the material or equipment is used.

h. What procedures will you need for laboratory work or student group projects?

If you are sharing facilities with other teachers, you will want to cooperate with them in standardizing rules for these procedures for all classes.

i. How will you pass out and collect materials and supplies?

To avoid traffic jams plan distribution stations carefully. Use more than one station. When possible, save time by placing some or all necessary materials or supplies on students' desks or work tables before class starts. Be alert to possibilities for using student helpers.

2. During your noninstructional activities:

a. If a student were absent on the previous day, what should she or he do?

If you have a particular location for roll call, you can have the student leave the absence excuse slip there for you to sign or bring it to you to sign while you are checking roll.

b. If a student will be leaving during the school day, what should she or he do?

First find out what your school requires. Follow generally accepted procedures.

c. What is the procedure for students who are tardy?

Find out the school policy and follow it. If there is no specific school policy, you will need to have a procedure of your own.

d. What standards of neatness do you require before dismissing the class or a group from one activity to another?

You should expect students to leave the room or learning center as clean as it was when they entered.

e. What procedure will you use to dismiss the class at the end of the period, for recess, lunch, and so forth?

Most effective teachers require all students to be in their seats and quiet before they dismiss them.

f. If PA announcements come on, what is expected of the students?

Tell the students specifically what their expected behavior is during announcements (e.g., no talking, stop or continue working).

g. What materials are students expected to bring to class or group each day? If these vary from day to day, how will you let them know?

Most effective managers expect students to have all of their materials ready to use when the bell rings. You might help students prepare a list of materials that are expected for each day.

h. What responsibilities do you want students to have in passing out and taking care of materials or equipment?

If there are specific instructions for the care and use of equipment or materials, the instructions should be given and demonstrated, if appropriate, prior to passing them out.

Once you have thought through a workable rules system that addresses the procedures needed for your classroom, you should think about how to maintain them and what the consequences will be for violating them. As you read in the REINFORCEMENT chapter, effective classroom managers use appropriate reinforcement techniques. They reinforce appropriate behaviors and allow "reasonable," logical consequences to serve as sanctions when rules are broken by students (Evertson et al., 1981; Emmer et al., 1982). For example, if you have a class rule that hands should be raised before speaking, a logical consequence for students who talk out is to ignore them and call on those students who have raised their hands. This approach should reinforce hand-raising behavior. Another logical technique is to remind students of the rule. Or you may have a rule prohibiting inappropriate use of gum. In that case, if a student blows bubbles, he or she would have to get rid of the gum and perhaps lose gum chewing priviledge for a period of time. An unreasonable consequence in this instance would be to require all students to cease chewing gum, thereby extending to students who were obeying the rule a consequence intended only to those who were violating it. Evertson et al. (1981) and Emmer et al. (1982) maintain that if students understand the logical connection between what they do and what will happen to them, they may be more apt to choose acceptable behavior.

Allowing every rule violation to follow its course to its logical consequence is unwise because the consequence may be "dangerous, costly or occur too far in the future" (Emmer et al., 1982, p. 65). For instance, if a student forgets his necessary materials, you would not want him or her to miss the planned academic activities; therefore, you may allow the student to obtain the material from his or her locker, book tray, or so forth or have another student lend the material. You might impose a penalty as a consequence for not having the required material in class such as points from a daily grade or demerits that may accumulate for time in from recess or for detention. These penalties should be explained carefully to the students when you are presentng the rules system to them. Keep in mind, however, that punishment can be demoralizing and that positive reinforcement for rule compliance can be a much more effective and preventative tool.

Practice Activity

Complete the checklists in Table 1 on the next page. You may want to address some of the questions below concerning the rules systems for your class.

1. Have I clearly communicated the rules, procedures, and consequences for compliance and noncompliance to my students?

Table 1
Checklist for Rules, Procedures, and Consequences

Subject	Rules or Procedures for Students	Consequences
I. Instructional Activities		
A. Teacher-student contacts		
B. Student movement within the room		
C. Student movement in and out of the room		
D. Signal for student attention		
E. Headings for papers		
II. Noninstructional Activities		
A. Roll call, absentees, students who will be leaving early		
B. Tardy students		
C. Behavior during PA announcements		
D. Warmups or routines		
E. Distributing supplies and materials		
F. Putting away supplies and equipment		
G. Organizing different classes' materials		
H. Dismissing the class		
I. Student contact with teacher's desk, storage		
J. Other		

Note: Adapted from Evertson et al., 1981 and Emmer et al., 1982.

2. Am I having any particular management problem in my classroom in any of the procedural areas? (If the answer is yes, you should revise the rules for that area and spend some time actively teaching them.)

3. Am I consistently enforcing the rules for all students all of the time? (Students are very aware of and sensitive to inconsistency in rule monitoring.)

Establishing and maintaining a well-managed classroom with sufficient rules necessitates that teachers take a leadership role and clearly identify expectations for student behavior. Although certain guidelines have been offered by researchers, you will have to decide how to apply them in your own classroom.

Despite the research findings which suggest that the same type of management techniques may work for both elementary and secondary classrooms, students' intellectual and social development needs should be considered when devising rules for your classroom. Brophy and Everson (1978) identified four general student age levels that have implications for classroom management concerns (see Box 1 on next page).

It seems clear that a systematic approach to organizing your classroom may prevent many problems from arising. You should begin early to think about what rules will help students accomplish their goals, how best to teach these rules, and how to enforce them fairly and consistently. There is good reason to believe that those who must live with and by rules will do so with greatest productivity and goodwill when they participate in the development of those rules.

Box 1
Stages of Student Orientation and Classroom Behaviors

Stage one (kindergarten through grade 2 or 3). Most children are compliant and oriented toward conforming to and pleasing their teachers, but they must be socialized into the student role. They require a great deal of formal instruction, not only in rules and expectations, but also in classroom procedures and routines.

Stage two (grades 2-3 through grades 5-6). Students have learned most of what they need to know about school rules and routines and most remain oriented toward obeying and pleasing their teachers. Consequently, less time needs to be devoted to classroom management at the beginning of the year; less cuing, reminding, and instructing is required therafter.

Stage three (grades 5-6 through grades 9-10). Students enter adolescence and become less eager to please teachers and more eager to please peers. Many become resentful or at least questioning of authority; disruptions due to attention seeking, humorous remarks, and adolescent horseplay become common. Classroom management again becomes more time consuming, but, in contrast to stage one, the task facing teachers is not so much one of instructing willing but ignorant students about what to do as it is one of motivating or controlling students who know what to do but will not always do it. Also, individual counseling becomes more prominent, as the relative stability of most students in the middle grades gives way to the adjustment problems of adolescence.

Stage four (after grades 9-10). Most students become more settled and oriented toward academic learning again. As in stage two, classroom management requires less time and trouble; classrooms take on a more businesslike, academic focus.

Note: From Brophy & Evertson, 1978, p. 34.

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ACADEMIC LEARNING TIME

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DEFINITION OF COMPETENCY

The competent teacher knows that learning is directly related to the amount of time learners are actively engaged in planned learning activities. The one relationship most clearly established by process-product research is the relationship between academic engaged time and learners' achievement gains.

PURPOSE

The purpose of this chapter is to help you understand the concept of academic learning time (ALT) and to assist you in developing strategies to use time effectively and efficiently in your classroom. Specifically, we will address issues associated with time and learning over which you can exercise some control as you plan, implement, and evaluate your classroom activities. We will discuss ways you can plan for efficient use of class time by minimizing the amount of time spent on various procedural matters, such as transitions from one activity to another. We will also suggest ways to maximize use of ALT in the classroom through learner involvement in assigned tasks--maintaining continuous class focus on lesson topics, matching the pace of instruction to learners' abilities, and avoiding classroom disruptions.

BACKGROUND KNOWLEDGE

On April 26, 1983, A Nation At Risk: The Imperative for Educational Reform by the National Commission on Excellence in Education was released. This report outlined our educational failures and challenged Americans to generate fundamental reform of our educational systems. Suddenly, it seemed, education had become front-page news. One major recommendation made by the authors of A Nation At Risk related to time. They called for a longer school day and a longer school year. This single, highly publicized recommendation is but the tip of the iceberg of concern about use of time in schools.

Research suggests a strong, consistent, positive relationship between the time students spend in learning activities and their achievement. This link between time and learning has guided many research efforts the past few years. During the 1970s David Berliner and Charles Fisher identified various concepts of time usage and learning. Berliner, Fisher, and their colleagues examined factors associated with student learning by observing student behavior (see Fisher, Berliner, Filby, Marliave, Cohen, & Dishaw, 1980). They found that the amount of time a student spends engaged in an academic task that he or she can perform with high success is related to learning. High student success occurs when the learning task is clearly understood by the student and he or she can complete it with no more than a few careless errors. The more time a student spends in an activity aimed at increasing a specified knowledge or skill, the more learning will result.

Fisher et al. (1980) identified several concepts of time usage in the classroom, which are important for teachers to understand:

Allocated Time -	The amount of time assigned to each discipline area within the curriculum. This quantity of time may vary from teacher to teacher in the elementary school because individual teachers may have the responsibility for establishing time frames for individual subjects in their classroom. Most secondary teachers will not have this flexibility but will have to adhere to structure of class time as designated by individual schools.
Engaged Time -	The amount of time a student is actively involved in learning the subject matter. Engaged time can be expressed as a proportion of allocated time.
Academic Learning Time -	Adds one more criterion to engaged time by stipulating that time spent in the classroom actively involved in learning also must be at an appropriate level of difficulty.

> Most studies have shown students learn best when interacting with learning experiences they can complete with a high rate of success.

This line of research associating time and learning is often traced to a model of school learning proposed by John Carroll in the early 1960s (cited in Karweit, 1983). Carroll showed how the relationship between time and achievement could be empirically tested by using a mathematical formula. His work is important because it suggests how an individual's aptitude in learning situations can be expressed as a function of time spent on an academic topic.

One of the first researchers to examine the connections between time and learning via Carroll's model was David Wiley. While reviewing the data from the *Report on Equality of Educational Opportunity* (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, & York 1966), Wiley (1976) found that longer school years were associated positively with student achievement. By examining absenteeism he found that students with the lowest number of absences were higher achievers than those with more frequent absentees.

Harnischfeger and Wiley (1978) observed classrooms to determine the amount of time teachers spend on various subjects. They found that teachers spent varying amounts of time on different subjects and that the more time teachers assigned to a subject, the higher the students scored on tests. Wiley and Harnischfeger expanded Carroll's original work on time and learning by specifying teacher activities that influence both the quality and quantity of time used by teachers in their classrooms.

One of the best known studies of time and learning is the Beginning Teacher Evaluation Study (BTES) (see Fisher et al., 1980). Initially the BTES was designed to identify teaching competencies that could assist educators in the evaluation of beginning teachers. During the planning phase of the BTES, the focus of the study moved more toward the need to identify research links between teacher behavior and student achievement.

Further, while subjects selected for the initial phase of the study were beginning teachers, those selected for subsequent phases were experienced teachers.

The project was conducted in four phases over six years. The data from the final phase are the most important for us to examine. The BTES authors are the first to define and distinguish among allocated time, engaged time, and success rate and to formulate the concept of ALT. The major findings of Phase IV underscore the importance of the time and learning relationship. These findings are as follows:

> 1. The amount of time that teachers allocate to instruction in a particular content area is positively associated with student learning in that content area.
>
> 2. The proportion of allocated time that students are engaged in is positively associated with learning.
>
> 3. The proportion of time that reading or mathematics tasks are performed with high success is positively associated with student learning. (Fisher et al., 1980, p. 15)

Other researchers have also been concerned about the use of time in classrooms. Stallings and Kaskowitz (1974) evaluated seven elementary program models that ranged from very structured teaching models to flexible approaches that emphasized individualized self-learning objectives. The most persistent pattern in their data was a positive link between achievement and opportunity to learn, or the time students spent engaged in academic activities. In a later study Stallings and her colleagues evaluated reading instruction at the secondary level and again found that among those variables examined, quantity of instruction was the highest correlate of achievement (Stallings, 1984).

Brophy and Good (in press) have reviewed research from 1973 to 1983 that examined teacher behavior and student achievement in typical elementary and secondary classrooms. They reported that "academic learning is influenced by the amount of time the students spend engaged in appropriate academic tasks" (p. 121). This is one of the most consistent results found across all studies reviewed.

The findings of recent research imply that you may positively affect student achievement by effectively planning, implementing, and evaluating classroom activities that foster the most ALT for your students. While you might exercise virtually no control over class schedules, you can manage time in your own classroom. Let's take a closer look at the classroom time you have at your disposal.

Allocated time for classrooms is determined by many factors. First, the number of days a student spends in a classroom is established by state law and is fairly constant across the United States ranging from 175 to 184 days and averaging 179 days. These numbered days may be reduced by student absenteeism, teacher strikes, school closings due to fuel shortages, financial problems, inclement weather, and so forth.

The minimum length of the school day is also set forth in state law. Recent estimates indicate that students spend an average of six hours a day in an elementary classroom and close to seven for secondary classes.

Given that students are attending school an average of 6 to 7 hours a day for 174 days, how is their allocated time used for individual disciplines? According to Karweit (1983), Smith claims that in the elementary school, time spent on each subject matter varies substantially from place to place "dependent on [the] individual teacher's perception of what is important" (p. 31). At the high school level allocated time is more stable and is usually divided into 50- to 60-minute units devoted to individual class disciplines. The number of true units spent on individual topics is decided by student course selection.

Allocated time in the classroom is used for both instructional and noninstructional activities. Noninstructional time is taken up when the teacher

1. changes from one activity to another;

2. conducts administrative tasks such as calling the roll or collecting money;

3. attends to interruptions caused by announcements over the intercom or messages from the office; or

4. monitors classroom behavior during periods of noninstruction, such as time between classes.

Activities 1 through 3, are, of course, time consuming and rob teachers of valuable instructional time.

Studies of time use at the elementary level found that noninstructional time varies from 10 to 50 percent of allocated time. The most allocated time lost has been identified as transitional time, that is, time devoted to such activities as moving students from one activity to another and getting students on task after recess, lunch, and bathroom breaks. A typical six-hour elementary classroom in the BTES study had four hours targeted for instruction with the remaining time allocated to noninstructional activities. After careful observation, the Austin, Texas school system found that more than one-fifth of the school day was involved in these noninstructional activities.

Stallings (1984) observed that secondary reading classes with ineffective teachers spent 38% of the time on non-interactive academic activities with their students. These teachers attended to off-task behavior 12% of the time and spent over one-fourth of class time managing and organizing activities. Conversely, effective teachers were off-task only 3% of the time and spent only 12% of their time administering classroom routines.

According to Berliner (cited in Brandt, 1982), approximately one-half of the teachers could reduce their noninstructional minutes in the classroom. Of this 50%, half "are probably badly under-allocating time in some areas of the curriculum" (Brandt, p. 13). In other words, allocated time in the classroom can be lost to noninstructional activities.

What factors facilitate the use of instructional, or engaged, time? Recent research shows that student level of engaged time is decreased when not interacting with or being closely supervised by a teacher. In a teacher-directed environment, the pacing of instruction can be done at a level that allows students to accomplish tasks with moderate to high success. The effective teacher is able to move quickly through each activity and is well prepared. Thus there are few interruptions due to the teacher's having to locate instructional aids or to stop and consult a teacher's manual or lesson plans for direction.

The effective teacher is also aware of student interactions in the classroom that may interrupt class lessons and can move to stop inappropriate behavior when it begins. Such prevention can be accomplished by alerting the disrupting student with eye contact, moving toward the disruptor, putting a hand on the disruptor's shoulder, and involving the disruptor in the class activity to assure that instructional time will be maximized. These types of techniques will keep the class on task and avoid interruptions that cause the teacher to stop a group lesson because of misbehavior. If the class is involved in seatwork, the teacher must also show the same type of active involvement with students. The effective teacher moves about the room and actively gives task-oriented feedback to students.

When considering any behavioral control technique, it is imperative to recognize the importance of respecting students' self-esteem and maintaining a positive affective bond with students. As Robert Spaulding (personal communication, July 26, 1985) has noted,

> Without such a bond, many of the control moves suggested [above] will work in a reverse fashion. When a student has been alienated from the teacher, her [or his] attempts to control (by glance, touch, or call to participate) will be interpreted by the student as threats to his or her independence and desire for autonomy and self-direction.

Practice Activity

How much time do your students spend engaged in academic activities? From our reading we've learned that the more time students spend involved in academic tasks the more they will learn. It would be very difficult to observe every student's actions during any specified time period, but viewing a few students may give you some clues to how task oriented your students are.

Although the influence of time on learning seems to be well established, certain concerns about research findings bear noting. Karweit (1983) critiqued the studies of time and learning and claimed that the evidence has not produced overwhelming support for the contention that more time produces more learning. Another review conducted by Frederick and Walberg (1980) suggests that learning is produced in school amid a melange of variables that affect success. They argue that time devoted to academic tasks can be used only as a "modest predictor of achievement" (p. 194).

Further cautions are issued by others about the generalizability of research results as well as the methods used to obtain them. Goss (1983) suggested the most important limitation of the research is that it has focused on elementary studies of the second and fifth grades and has involved only mathematics and reading classes. Generalization of the results of time and learning research to all disciplines and other age groups should be done only with caution. Furthermore, academic success has been almost exclusively defined by scores on standardized tests. Goss (1983) reported, however, that as many as 30 to 40% of the items on standardized tests are not covered by major commercial textbooks.

In summary, to get the most out of your allocated time you need to be actively involved in and in control of instruction in your classroom. Research suggests that teachers who dominate the classroom through lecturing, demonstration, discussion, reviewing, practice, or recitation and who closely monitor independent seatwork will have higher achieving students. But you must remember that common sense dictates that quality of instruction plays an important role in helping students achieve. More time is not the only criteria for success, especially if it is more bad time. Soar (1977) reported that beyond a certain level, teacher direction may actually negate learning and that time might be more appropriately used by moving to new objectives.

It is also important to bear in mind that when teachers dominate classrooms "with a heavy hand," students' feelings of self-efficacy and of control over their own lives may suffer. Research on what is often called "cognitive style" suggests that students can and should make the decisions they are capable of making. When students do so, their chances for developing internal standards and values are greatly enhanced. Children who learn to make reasoned decisions in the classroom are more likely to do the same in other situations than are children who have always been told what to do.

You do have control over making decisions about the use of allocated time in your classroom, and there is a strong indication that the more time students spend on a subject the more they will learn, up to a point. It is therefore imperative for you to examine your classroom to become aware of the noninstructional time that can be minimized and to familiarize yourself with techniques that encourage more engaged time and ALT for your students. Such techniques include making expectations for performance clear to students, providing task-oriented feedback, holding students accountable for their work, minimizing disruptive behavior, giving appropriately challenging assignments, and capitalizing on the intrinsic motivation of students.

Practice Activities

Much of instructional time in classrooms is lost when the teacher is moving from one activity to another, disciplining students, and performing administrative jobs. The following activities give you an opportunity to examine and evaluate allocated time in your classroom and can be used as guides to help you decrease noninstructinal time.

There are many ways in which you make use of your allocated classroom time. Your activities can be divided into two major areas: noninstructional and instructional. To examine how allocated time is used in your teaching situation, we want you to choose an allocated time period from you normal classroom schedule. (Secondary teachers may want to use one or more of their allocated class periods. Elementary teachers might select a portion of their morning or afternoon academic schedule.) In the following activity, fill in your allocated time slot and read down the list of descriptors. Check off those descriptors you anticipate you will demonstrate during your allocated time slot and estimate the amount of time spent for each checked item. If you need to add other descriptors you anticipate will occur, list them in the appropriate place. Finally, total the minutes from each function and express classroom non-instructional time and instructional time as a percentage.

1. Choose an allocated time frame for a specific subject from your daily class schedule and record. Express in terms of minutes:

	Subject taught	Amount of Time
Elementary	______________	______________
Secondary	______________	______________

2. Next, review the following list of activities that will be occurring in your classroom during the allocated time listed in #1. Check off those activities you anticipate you will do and estimate the amount of time needed to complete each task:

a. NonInstructional Activities	Will Do	Estimate of Time
Taking roll	______	______
Making announcements	______	______
Passing out material	______	______
Collecting material	______	______
Making transitions from one activity to another	______	______
Other:		
____________________	______	______
____________________	______	______
Total Number of Minutes		______

b. Instructional Activities		
Reviewing and discussing previous material	______	______
Presenting new information	______	______
Giving direction	______	______
Providing practice	______	______
Reteaching small groups	______	______
Monitoring individual student work (clarify activity ________________)	______	______
Total Number of Minutes		______

3. Let's calculate the percentage of your allocated time that you anticipate will involve noninstructional and instructional activities.

a. Record the total number of minutes calculated in #2a, divide this total by the number of minutes in your allocated time frame recorded in #1, and multiply by 100.

$\frac{\text{(\#2a total)}}{\text{(\#1 total)}}$ X 100 =______% Estimate of time spent on noninstructional activities

b. Record the total number of minutes calculated for #2b, divide by the number of minutes in your allocated time frame recorded in #1, and multiply by 100:.

$\frac{\text{(\#2b total)}}{\text{(\#1 total)}}$ X 100 =_____% Estimate of time spent on instructional activities

4. Now that you have estimated your times for instructional and noninstructional activities, let us examine your allocated time in a real classroom situation to check the accuracy of your estimates. You may either video tape your time period or ask another teacher to observe. Either you or the teacher will observe the allocated time frame following these directives:

a. You will need a clock or watch with a second hand, a copy of the time chart in Figure 1 on the following page, and the list of expected instructional and noninstructional behaviors from #2a and b.

b. At the end of every 30 second interval, code the teacher's behavior with either a "+" or "-," according to how the teacher spent most of the time during each interval, as explained on the time chart.

c. When the allocated time frame is completed, calculate the percentage of time the teacher was involved in instructional and noninstructional activities:

______% Allocated time actually involved in instructional activities

______% Allocated time actually involved in noninstructional activities

5. After gathering the data in #4c, compare the figures to those generated in #2a and b:

Figure 1
30-Second-Interval Time Chart for Recording
Schedule of Allocated Time

																				10 min.
																				20 min.
																				30 min.
																				40 min.
																				50 min.
																				60 min.

+ = teacher involved in Instructional Activity listed in No. 2b.
- = teacher involved in Non-instructional Activity listed in No. 2a.

	Estimated Time	Actual Time	Differences
Instructional Time	______%	______%	______%
Noninstructional Time	______%	______%	______%

6. If you find discrepancies between estimated and actual time, you might want to consider the following questions:

a. Where are the differences?

b. How important are the differences?

c. Are you pleased with the percentage of time you spend on instructional and noninstructional activities?

d. Should you gather data on this allocated time frame again or maybe even examine another time period?

e. If you want to increase your percentage of instructional time, what plan of action should you take?

As you reflect on the questions in Practice Activity #6, you may want to keep these points in mind from the research on Academic Learning Time:

INSTRUCTIONAL TIME INCREASES LEARNING!

> The most consistent findings across elementary and secondary classrooms suggest that academic learning is linked to the amount of time students spend engaged in appropriate academic tasks. Eliminate as much noninstructional time as you can.

YOU CAN BE THE LEADER OF THE PACK!

> Teachers who are in control of the instructional process are business-like but friendly and task oriented. They adopt a "can do" attitude for their students and tend to enhance learning.

Students learn more when they are taught or supervised by teachers than when they work entirely on their own. *Be an active teacher*.

HIGH SUCCESS RATE MEANS HIGH ACHIEVEMENT!

Academic content needs to be divided into small units so that students can progress through materials briskly but with a high rate of success and minimal frustration and confusion. Students should be able to successfully answer questions approximately 75% of the time during teacher led instructional time, and students working independently should be able to complete the work with a 95-100% success rate. Students will achieve more if they are given the opportunity to interact with material that is familiar and easily enables them to assimilate new information. *Divide and conquer*.

McNergney and Carrier (1981) explain a pupil observation system developed by Kounin (1970), which allows you to calculate student academic involvement and deviant behavior. Student work involvement is divided into three categories and is defined as the amount of time pupils spend engaged in academic work. The following explains each category:

Definitely In - Student is exhibiting expected academic behaviors such as taking notes, completing a written assignment, voluntering to recite or answer questions, reading or visually attending.

Probably In - Student is reviewing written assignment or listening to teacher, but is not demonstrating clear signal that he/she is actively involved in current classroom activity.

Definitely Out -	Student doesn't have written assignment on desk and is demonstrating that he/she is not involved with classroom activity.

Another category of student behavior in this system is deviant behavior. The system specifies three types of deviant behavior that pupils can demonstrate:

No Misbehaving -	Student is neither purposefully acting out against another student or teacher nor breaking classroom rules.
Mild Misbehavior -	Student is demonstrating behavior of which most teachers would disapprove, such as talking to another student, passing notes, reading other material (library book, comic book, etc.), drawing or doodling, or throwing spitballs.
Serious Misbehavior -	Student is demonstrating disruptive behavior that interferes with others, damaging property, threatening students or teachers, or violating school rules.

Practice Activities

To examine a segment of your classroom for student behavior using the approach described above, you may either tape a segment of your class and code it yourself or have a fellow teacher observe and code the behaviors of selected students. Regardless of who does the observations, the following steps to applying Kounin's system can be used to guide the observer's activities:

1. Construct a diagram of the classroom that includes locations of students' and teacher's desks.

2. Divide the room into four sections and randomly select one boy (B) and one girl (G) in each quadrant to be observed.

3. Observe selected pupils and code their behavior for ten-second intervals over a specified time period. For example, the observer will focus on B_1 and G_1 for ten seconds and then code how each pupil spent the majority of his or her time during the ten-second interval. The observer then turns to B_2 and G_2 and repeats the procedure.

4. After the data have been recorded, you may want to organize and interpret these data in several ways. If you want to examine the percentage of work involvement you can compare the number of intervals coded as "definitely in" to the number of intervals observed. The scores of individual students can be averaged to get a score for classroom work involvement. Kounin suggested that the rate of deviant behavior be calculated by determining the percentage of ten-second intervals in which no misbehavior occurred. Using such an approach, the rate is stated in a positive way--freedom from deviant behavior.

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ACCOUNTABILITY

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DEFINITION OF COMPETENCY

The competent teacher knows the importance of holding learners responsible for completing assigned tasks. It is important for the teacher to make sure that every student actually undergoes the learning experiences planned for him or her. Holding the learner personally responsible for completing assigned learning tasks is also important because it gives learners practice in assuming and discharging personal responsibilities.

PURPOSE

This chapter is designed to help you understand the importance of learner accountability and to provide some strategies for assisting you in making students accountable for their learning. We will look at ways to plan just what tasks each learner is supposed to complete. We will also examine strategies for making clear to students what they are expected to accomplish and for establishing consequences of not completing an assigned task. Finally, we will address methods for checking to see whether students work on their tasks and checking to see whether assigned tasks are indeed completed.

BACKGROUND KNOWLEDGE

Accountability is an extension of Academic Learning Time. The results of instruction are a function of both what the teacher does and what the student does. By providing academic learning time, the teacher increases the efficiency of class time; by fostering student accountability, the teacher increases the effectiveness of instruction.

In a review of research on teacher behavior and student achievement, Brophy and Good (in press) cite numerous studies that indicate the importance of accountability. In the Texas Teacher Effectiveness Study, Brophy and Evertson (1976) found that the most effective teachers were those who matched their assignments to students' abilities, monitored students' work on assignments, provided reminders and even demands when necessary, and checked that students' work was completed carefully. Evertson, Anderson, and Brophy (1978), in their junior high study of achievement in English and mathematics, found that the most effective teachers thoroughly explained assignments before students began work and took care not to become so involved with some students that they ignored the work of others.

Research from the massive Beginning Teachers Evaluation Study showed strong relationships between achievement and accountability factors including appropriate assignment of tasks, student engagement in learning tasks, and student responsibility. In a study of Title I students in reading and mathematics, Crawford (1983) found that achievement was related to factors including teacher monitoring and other strategies that facilitated student engagement in learning tasks. Coker, Medley, and Soar (1980) also found similar relationships: student achievement was related to such teacher behaviors as selecting appropriate learning activities for individual students and providing clear task directions.

Brophy and Good (in press), in summarizing correlational studies of teacher effects, note the important point that "the data indicate the need to consider the quality of academic activities, and not just the time spent on them. . .the 'time on task' that is linked most closely to achievement is time spent in teacher directed lessons or in seatwork actively supervised by the teacher" (p. 86).

Practice Activity

Reflect on your usual teaching behaviors that relate to the research just summarized.

1. Do you usually assign the same task to all students in your class or do you usually differentiate assignments?

2. Do you usually assume that students understand what they are to do after you have given an assignment or do you check to determine if they understand it?

3. Do you usually assume that students will do the task because you have assigned it or do you monitor each student's work?

4. Do you believe that students should already be responsible or do you plan actions to foster responsibility?

Assigning Tasks

As noted in the preface of this text, many of the competencies are interrelated. ACCOUNTABILITY is related not only to ACADEMIC LEARNING TIME, but also to INDIVIDUAL DIFFERENCES. Simply put, a learner is more easily accountable for those tasks which are appropriate than for those which are not. Because differences among students are inevitable, the teacher must plan just what tasks each learner is supposed to complete. The failure to differentiate tasks can lead to a number of undesirable outcomes:

1. Students will not become as actively engaged in tasks as is intended.

2. Student responsibility for completing tasks will diminish.

3. Students will develop poor work habits.

4. The teacher will find that classroom management is made more difficult.

Differentiating assignments is one of the most difficult tasks for teachers. As Brophy and Good (in press) note, it not only involves additional teacher preparation time in providing different assignments, but it also makes the task of assisting students more difficult as the teacher switches from one to another. Such differentiation, however, is made easier by using the following strategies.

Determining Who Needs Differentiated Assignments

Virtually no teacher has different learning tasks for each student. Tasks are differentiated only when needed, such as under the following circumstances:

1. If the student needs more or less complex assignments than the majority of the class. For example, an assignment that is at an appropriate level for the majority of students may be far too complex for a slow learner. The same assignment may be so shallow for a gifted student that the learner never really can get involved in the task. It is difficult, if not impossible, to foster accountability if the task is too far above or below the level of the learner.

2. If the student needs a different presentation format or response format than is typically used. The most common problems related to this need involve handicaps which students may have (and which may not be obvious) and the readability level of materials. An inability to comprehend the content or to respond as directed will, quite understandably, retard student engagement and preclude accountability.

3. If the student requires a different pace of learning than is typically used. One implication of individual differences is that different students require different amounts of time to master the same objectives. In one illustrative study, Aylesworth and Noonkester (1984) found that one-third of a fourth-grade class had already mastered over fifty percent of their school's grade five objectives for math and language arts. Other students may require more time than is typically allocated for mastery. To provide the same learning activities for both groups of students would, as Brophy and Good (in press) note, "result in moving too slowly for the brightest students but too quickly for the slowest" (p. 76).

The following are examples of strategies you can use to determine which students may need differentiated assignments:

1. Look for indirect clues. Frequently, students will not verbalize their problems but will provide

clues that problems exist. Comments such as "I don't understand," frequent requests for help, and behaviors such as daydreaming or carelessness may be indications that the tasks are inappropriate for the student.

2. Look for signs of lack of responsibility. Just as appropriate learning tasks are necessary to foster student accountability, the lack of responsibility may be a sign of inappropriate tasks. Students' failure to attend to tasks in school or failure to complete homework are common indicants of inappropriate assignments.

3. Look for underachievers. Students whose work is not up to your estimate of their abilities and students whose work is not commensurate with their efforts may merely be showing signs of a need for you to differentiate activities. When students' work is not up to their abilities, more complex tasks or a faster pace may be needed to make the tasks appropriate. When student learning is less than would be expected given their efforts, it may mean that the material is too complex, the presentation format is beyond their comprehension, or the pace is too fast for them.

4. Listen to other teachers. Although a student's experiences with another teacher may not always be generalizable to your classroom, you can learn much about your students' needs by listening judiciously to others. The commonly heard phrase, "I don't want to be biased by the impressions of others," is not valid if one uses the information carefully. One should not conclude that another teacher's assessment is the case; however, information that a student may have a problem could be useful in trying new approaches to foster student accountability.

One final factor relating to appropriateness of learning activities pertains more to the activities than to individual differences--the extent to which the activities are likely to be found interesting. Although educational research has clearly documented the importance of drill and practice for meeting many instructional objectives, this does not imply that drill and practice activities that are inherently boring are useful. Just a little creativity can turn a rote drill and practice activity into a game. Variety of activities can add to students' interest. Allowing students to select from options or to relate your objectives to their interests can greatly improve the appropriateness of learning activities.

Practice Activities

1. Use your lesson plans for one subject to list all the activities that you assigned students during any two weeks. Include in-class activities and homework, and remember that listening to your explaining is a student activity.

2. Evaluate your list by asking the following questions:

   a. Is there variety or do the activities tend to be of the same type?

   b. Are the drill and practice activities mostly rote or do you frequently use games that are appropriate to your students' age level?

   c. Is the content of most of your activities relevant to the interests of students of that age?

   d. Do you provide any opportunities for students to select from options or to apply their interests to your activities?

   e. If you were a student of that age, how interesting do you believe you would find these activities?

3. Use the following questions to identify two students who may need differentiated activities--one who may need greater challenge and one who may need less:

a. Is there a student in your class who frequently needs your individual assistance?

b. Is there a student in your class whose performance is not up to the student's effort?

c. Is there a student whose performance is definitely not commensurate with the student's ability?

d. Is there a student who frequently does not complete assignments?

e. Is there a student who you have reason to believe may have a handicap?

4. For each of these two students:

a. Discuss the problem with the student, other teachers, parents, and a counselor if available.

b. Check the student's records for information on past achievement, reading level, and previous evidence of the problems you have identified. Make a line graph of the student's rate of reading improvement using standardized scores from his or her permanent records. Do the same for math achievement scores.

c. Do not jump to conclusions. Compare the information you obtain from discussions with others and from the student's records.

d. Look for patterns in the information that suggest

- a need for more or less complexity in activities
- a different presentation or response format
- a different pace

5. If the information suggests that modifications may be appropriate, try them. Do not expect instant results, but monitor the problems you had noted

previously to determine if there are signs of improvement.

Making Expectations Clear

An assumption is all too commonly made that students understand expectations simply because they have been explained. Everything we know about communication points out the error of this assumption. That of course is not to say that explanations are unimportant--students need teacher expectations clearly explained. This, however, is just a beginning toward making expectations clear. The following strategies will be useful in improving communication:

1. Explain to students as clearly as possible what you expect them to do in any activity. In almost all cases it is helpful if you can explain why they are doing the activity and what you expect them to learn from it. The explanation should include what resources they should (or may) use, when they should complete it, and, if there is to be a product, what format they should use.

2. Particularly common with older students are questions such as, "How long should our reports be?" Students are generally just asking for a clarification of expectations. If length or number of hours spent are not appropriate descriptors of expectations, provide guidelines that do appropriately describe them.

3. If the learning activities involve response formats that students may not have used before, give them a demonstration of how to respond or, if possible, give them examples to use as models. Even for bright older students, concrete examples are one of the best ways to communicate expectations.

4. Remember that the question, "Does everyone understand what to do?" is generally not helpful. At best, it usually only serves as a polite but not particularly clear way of asking, "Did everyone hear the explanation?" Students (and adults) generally do not know if they understand until they try to do the activity--understanding directions and expectations is itself a learning activity and requires practice. For

this reason, it is very helpful if students can be given some time in class to begin homework so that they can be given feedback if they do not understand.

5. As students begin an activity, check first that every student's work demonstrates understanding of the task. The sooner you can give students feedback regarding their understanding of your expectations, the less likely students will become frustrated. Positive feedback is as important as negative feedback, if not more so.

6. It is important that students understand from the very beginning of the year that your expectations are not that they merely do the activity, but that they do it successfully at the level you expect of them individually. All too often students view their work and your feedback in terms of "I got it right" versus "I got it wrong." Anything you can do, through words and actions, to get students to think instead in terms of growth and improvement will help them greatly. A student who always "gets it right" may not be working under high enough expectations. Frequently, such students are devastated when they eventually get something wrong, and they all too often avoid challenges because they do not know how to cope. Similarly, a student who consistently "gets it wrong" may develop or reinforce poor attitudes and poor self-concept as a learner. Students need to become aware that a first try is just that--a first try--and should anticipate teacher expectations for revisions and improvements.

Practice Activities

1. After giving an explanation for a new task to students, do you check that they understand it before they are well involved in the activity? Do you remember how frustrated you used to be when your teachers were not clear about their expectations?

2. Do your actions foster a "right versus wrong" attitude among your students? Do you accept work that is below your expectations and call it "good enough"? Do your students expect that they will regularly be asked to revise and improve, or is the "first try" usually the only try?

Establishing Consequences

Students are human beings. This seemingly trite observation can take teachers a long way toward understanding students' behaviors. Two characteristics common to all human beings will affect any teacher's ability to make students accountable for their learning: (1) whenever a student has any reason not to do an activity, the student will consider the consequences of not being accountable, and (2) the same consequence may be viewed differently by different students.

Human growth and development are characterized not only by increasing knowledge, but also by increasing independence. Thus, in summarizing research on effective instruction, Brophy and Good (in press) note "in later grades . . . it becomes especially important to be clear about expectations and to follow up on accountability demands" (p. 116). Even in the early grades, however, consequences of not completing assigned activities need to be established. Two teacher behaviors are most important in effectively establishing such consequences. First, the teacher needs to clearly inform students of the consequences both through words and actions. If students do not realize what the consequences will be, they understandably will test to determine the teacher's limits. This unfortunately leads to having to "establish rules in mid game" and exacerbates classroom management problems. Second, the teacher needs to be consistent in enforcing the consequences. Even very young students realize that it is not the verbalized rules but rather the enforced rules that are important. Older students, particularly as they develop more sophisticated moral reasoning and greater independence, will base much of their respect for a teacher and many of their behaviors on the consistency with which rules are applied.

As noted, another important element in establishing consequences is realizing that the same action may be viewed differently by different students. In establishing consequences of not completing an assigned task, the teacher is trying to create a deterrent to undesired student behaviors. This will be effective only to the extent that the consequence will indeed influence the student's behaviors. For example, a failing grade is an effective consequence only if the student views a failing grade as undesirable--so undersirable that he will complete the task. If the consequence is not undesirable to the student, it will not serve the purpose the teacher intended. This problem is compounded by the phenomenon of acclimatization--after getting a few failing grades for not completing assignments, the student may feel used to getting such grades and the consequence is no longer so undesirable to him. In such situations, the consequence again may no longer serve the teacher's purpose. As the teacher finds that the consequences, even when clearly understood and consistently enforced, do not change behavior, the teacher must change the consequences to fit the student.

Although students need to understand that there are consequences for undesirable behavior, it is vitally important for teachers to capitalize in positive ways on the things students do well. Students will be more likely to hold themselves accountable when teachers reinforce positive behaviors in classrooms. The effective teacher is always on the look-out for those aspects of learning which are intrinsically motivating for students. Those things which students like to do and do well can be used to reinforce learners to view school as rewarding and worthwhile.

A useful strategy for influencing student behavior involves collaborative problem solving with the student. In using this method the teacher must begin by trying to get the student to accept "ownership" of the problem. That is, change it from the teacher's problem to the student's problem or at least a mutual problem. In the course of such discussion, other related problems frequently surface. Once the problems have been acknowledged, the teacher assumes the role of helping the student solve problems rather than the role of enforcing rules. This strategy is most helpful when a student's need to assert independence is related to the failure to complete work.

Practice Activities

Consider the consequences of a student's not completing assigned work in your class:

1. Do your students clearly understand what the consequences are?

2. Do you assign more work simply to keep them busy?

3. Do you give them choices of what to do?

4. Do you make them wait for others to finish?

5. Do you consistently enforce your rules?

6. Do some students persist in not completing work despite your consequences?

7. Are you trying to find work that interests students?

Monitoring Students

If the teacher expects students to come to school with an already developed sense of responsibility for completing their work, the teacher will frequently be disappointed. Student accountability, like academic understanding, must be fostered by the teacher. The teacher can most effectively do this, short of enforcing consequences, by checking to see whether learners work on their tasks and whether assigned tasks are completed and by giving credit for those who are on task and who have completed tasks. As noted in the background information section of this chapter, the regular monitoring of students is one of the most important elements in effective teaching, provided that the monitoring is characterized by positive feedback strategies.

McNergney and Carrier (1981) note that actions to promote student accountability are closely related to the concept of "withitness"--knowledgeability of student behavior and misbehavior. They cite Kounin in providing the following examples of teacher behaviors which can foster student accountability during recitations:

1. Teacher asks children to hold up their props, exposing performances or answers in such a manner as to be readily visible to the teacher.

2. Teacher requires children to recite in unison while the teacher shows signs of actively attending to the recitation.

3. Teacher brings other children into the performance of a child reciting. (Teacher says, "Jimmy, you watch Johnny do that problem and then tell me what he did right or wrong.")

4. Teacher asks for the raised hands of children who are prepared to demonstrate a performance and requires some of them to demonstrate.

5. Teacher circulates and checks products of nonreciters during a child's performance.

6. Teacher requires a child to demonstrate and checks his performance (p. 92).

Other activities by which teachers can foster student accountability include calling on nonvolunteers, collecting seatwork regularly, returning marked homework papers, regularly moving around the room while students are doing seatwork, and making notes in a teacher's record book of each pupil's rate of progress (noting problems completed, pages read, etc.) and attention to task. Such actions, when done consistently, create an environment in which students expect that they must engage in assigned activities. Such an environment, in turn, will foster students' personal sense of accountability.

Practice Activities

Consider your own behaviors related to monitoring students' work:

1. Do you call on nonvolunteers as well as volunteers?

2. Do you collect assignments to check that students completed them?

3. Do you move around the classroom while students are working at their desks?

4. Do you engage other students when selected students are performing or reciting?

5. Do you find students who are on task and find a way to reinforce them (e.g., touch them, smile at them, comment positively, sign your initials on their work pages, or record points in your record book)?

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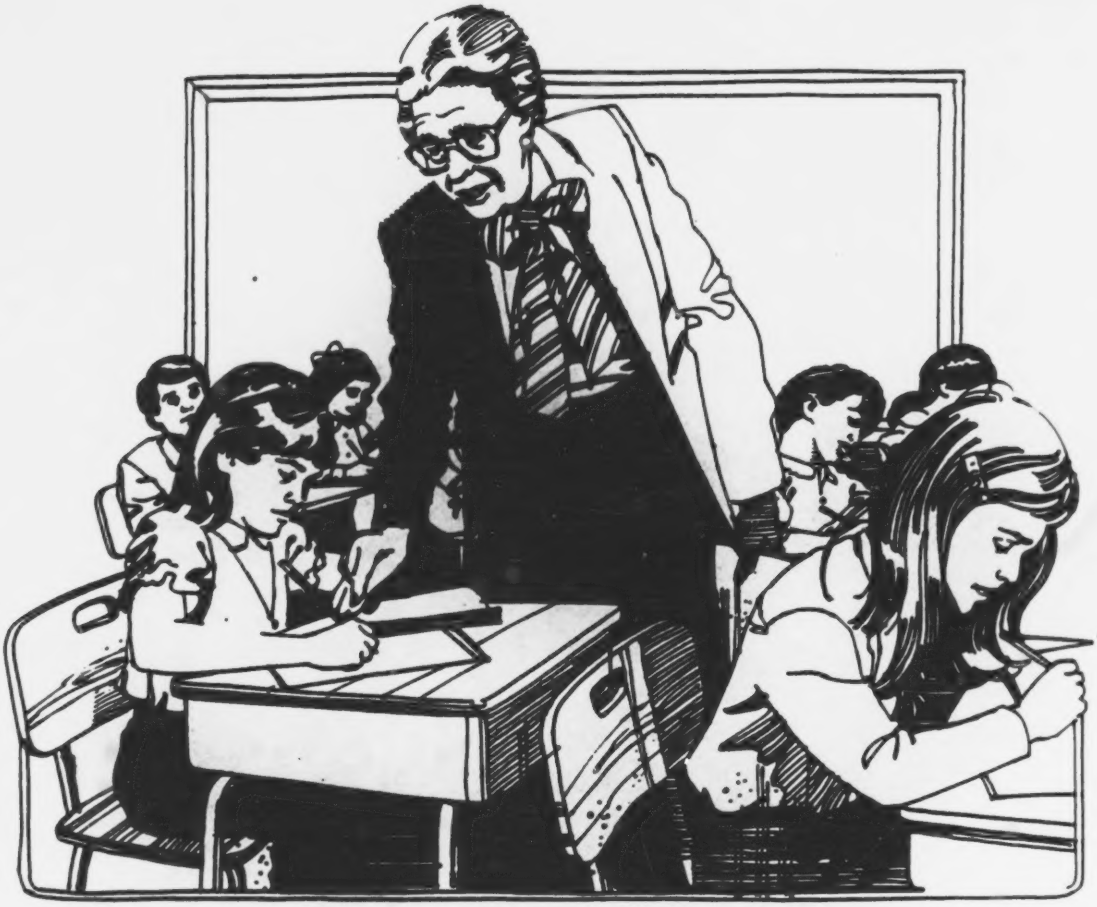
CLOSE SUPERVISION



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DEFINITION OF COMPETENCY

The competent teacher knows that more is learned during individual, small, and whole group activities if the learners are monitored than if they are not. Research indicates that learning is facilitated during activities in which learners are monitored rather closely, presumably because this increases the amount of learner engagement. Close supervision also provides opportunities for the teacher to assist and encourage learners.

PURPOSE

The old adage "A watched pot never boils" may hold true in the kitchen, but within your classroom the phrase is inoperative. When teachers supervise students--or monitor activities and offer help when needed--chances for student learning are enhanced. The primary objective of close supervision is to maximize student involvement with learning tasks so as to increase achievement.

BACKGROUND KNOWLEDGE

No sooner had video technology been introduced into classrooms than people began asking, "Will TV replace the classroom teacher?" With the refinement and sophistication of modern computer capabilities, many people are exploring ways to utilize this technology to help children learn.

Although technology may facilitate learning, you can rest assured that there is no electronic robot educator blinking and beeping its way to take your job. The classroom teacher is still a powerful force in helping students by actively encouraging learning.

Brophy and Good (in press) reviewed research that focused on teaching behaviors related to student achievement. They concluded that "students achieve more in classes where they spend most of the time being taught or supervised by their teachers rather than working on their own" (p. 103). Good and Brophy have applied the term "active teaching" to describe teachers who are closely supervising their students.

Teachers engaged in active teaching often present information and develop concepts through teacher-led discussions. These teachers rely on student feedback through frequent questioning and recitation designed to check for student comprehension. Not until teachers are assured that students understand concepts will the students be released to practice newly learned material at their seats. During individual seatwork the teacher monitors progress of students working independently and assists those having difficulty, reteaching if necessary.

In this active teaching or close supervision model of teaching, the teacher takes major responsibility for conveying content to students rather than depending on curriculum materials (Brophy & Good, in press). Teacher talk is prevalent during the learning situation, but it focuses on the academic subject matter. The teacher asks questions and provides feedback rather than lectures. Few teacher comments are made on procedural, managerial, socialization or personal issues.

In some studies, teachers of students who made the greatest achievement gains (at least as measured by certain tests) demonstrated these types of active teacher behaviors at both the elementary and secondary level (Good & Grouws, 1977, 1979; Evertson, Anderson, Anderson, & Brophy, 1980; Good, Grouws & Ebmeier, 1983). Teachers of students who made less progress had their students work independently at their desks more often than did effective teachers. Also, these less-effective teachers gave inadequate instructions for seatwork and did not recognize signals from students who had either "procedural or substantive" misunderstandings about the assignments. In essence these teachers were not actively supervising their students.

Good and Grouws (1979) reviewed 100 third- and fourth-grade students' math achievement scores and found marked differences among types of teaching in the students' classrooms. Despite the fact that teachers used the same curriculum materials and had students of comparable abilities, some teachers had higher achieving students than did other teachers. After observing teachers in classrooms, the researchers found that more effective teachers demonstrated the behaviors characteristic of "active teaching." (You must remember these were correlational studies which do not prove that teachers actually caused learning.) These characteristics have been summarized by Good (1983). According to Good, effective teachers:

1. teach the class as a whole,

2. present information actively and clearly,

3. are task focused (e.g., during a math lesson, they spend most of the period on math, not socialization),

4. are basically nonevaluative and create a relatively relaxed learning environment with comparatively little praise or criticism,

5. express higher achievement expectations (e.g., they assign more homework, use a somewhat faster pace, and are more alerting than ineffective teachers).

Good and Grouws (1979) wrote a manual for teachers to encourage the use of "active teaching." The key instructional and management strategies that served as the basis for the manual have been summarized by Gagne (1985). (See Box 1 on next page.)

When mathematics teachers implemented this program, the performance of their students was considerably higher than the performance of students in a comparative control group. Good and Grouws (1979) concluded that teachers do affect student learning and that through inservice training, teachers can learn teaching strategies that facilitate student achievement.

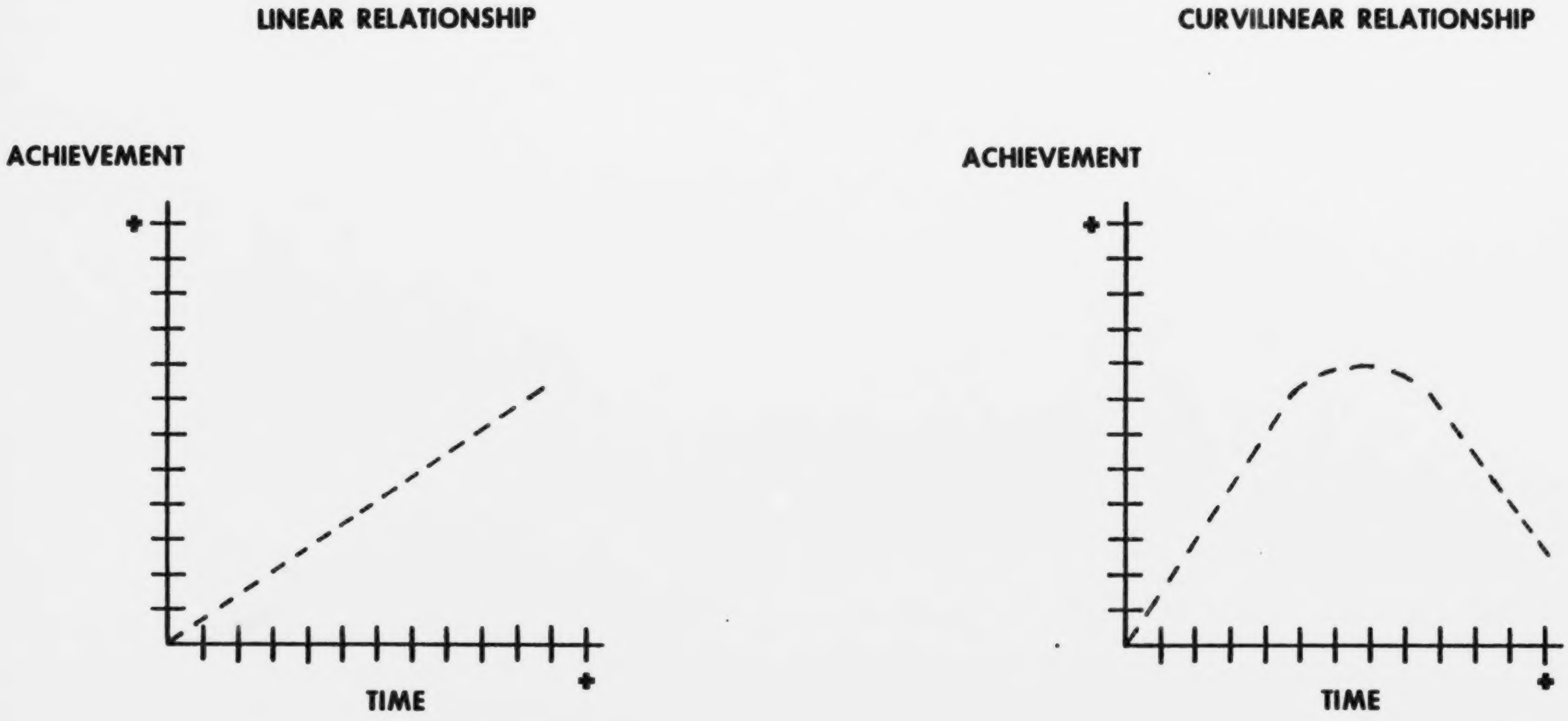
Another finding among researchers has been the positive relationship between teacher control of learning time and student achievement. As teachers exert control over student time on task, achievement levels rise, up to a point. However, increases can be followed by decreases (see Figure 1).

Box 1
Instructional and Management Strategies

1. *Daily review* (first 8 minutes except Mondays)
    a. Review the concepts and skills associated with the homework.
    b. Collect and deal with homework assignments.
    c. Ask several mental computation exercises
        - using process/product questions (active interaction)
        - using controlled practice.
    d. Repeat and elaborate on the meaning portion as necessary.
2. *Seatwork* (about 15 minutes)
    a. Provide uninterrupted successful practice.
    b. Momentum–keep the ball rolling–get everyone involved, then sustain involvement.
    c. Alerting–let students know their work will be checked at end of period.
    d. Accountability–check the students' work.
3. *Homework assignment*
    a. Assign on a regular basis at the end of each math class except Fridays.
    b. Should involve about 15 minutes of work to be done at home.
    c. Should include one or two review problems.
4. *Special reviews*
    a. Weekly review/maintenance
        - conduct during the first 20 minutes each Monday
        - focus on skills and concepts covered during the previous week.
    b. Monthly review/maintenance
        - conduct every fourth Monday
        - focus on skills and concepts covered since last monthly review.

Note: Adapted from Good & Grouws by Gagne, 1984, p. 230.

Figure 1. Relationships Between Teacher Control of Learning Time and Student Achievement



This means that teachers can have students spend so much time on task that they become counterproductive.

Research by Brophy and Evertson (1976, 1978) also shows that the successful classroom teacher is a manager of academic learning time through close supervision. Moving about the classroom during instruction and during individual seatwork, reducing classroom interruptions, appropriately directing disciplinary action, and providing appropriate feedback to students are all teacher actions that can result in improved learning.

Another aspect of the Brophy and Evertson (1978) study serves as an excellent illustration of effective close supervision. Contrary to what one might think, their research showed that greater student learning occurred in reading groups when students read aloud in an ordered rotation than when students read in random order. Use of ordered rotation reduced the distraction of hand raising and the typical "me next" comments from the students. This allowed for better concentration on the lesson in a stable environment. The teacher also was able to focus attention on all of the students and provide equal assistance to each. These same principles can be utilized in total group instruction, provided the teacher has properly prepared for and explained the correct procedures and explained them to students.

Reading instruction was the focus of two studies by Stallings, Cory, Fairweather and Needels (1977, 1978). The first study examined elementary students and the second was conducted at the high school level. Both sets of data indicated gains were realized when teachers effectively managed the academic learning time of their students through small group instruction, silent and oral reading, praise for success, and constructive feedback.

Some may think that teachers provide close supervision of students only through a model of whole group instruction, but Good points out that active teaching really "connotes a broader philosophical base" (p. 59). Teachers may closely supervise and demonstrate active teaching behaviors while using small group instruction. In addition the teaching presentation may be either inductive or deductive, that is, student learning may be either self initiated or teacher initiated. Instead of employing only one style of teaching, an active teacher may accomplish his or her learning objectives through a variety of techniques. The key factor is that teachers must be actively involved in the process, clearly setting expectations for student academic work and behaviors.

The term "close supervision" may conjure images of mechanistic teaching. Just the opposite is true. Spaulding (personal communication, June 26, 1985) said it well:

> Close supervision, to be maximally effective, must be preceeded by a conscious effort to establish affective bonds with each of the students. Bonding is established gradually by distributing positive and negative reinforcers to each and every student from the very first day of class. The teacher should be near the entrance to the class as the students enter for the first time each day, greeting them with hellos, with questions about how they are feeling, or with comments about some topic of personal interest to this. By bell time, the students should be beginning to work on assignments built into their plans or listed on the board and the teacher should be moving about the room commenting on work underway and recording positive comments on worksheets and in a teacher record book. The marking on papers and the notes in the teacher's record book should contain no aversive or critical comments. Those students who do not deserve positive or negative reinforcers at this time (when the bell has rung and academic work is expected) should be passed by without comment. After a work period of 10 to 15 minutes, the teacher should call the attention of the class to a lesson she has prepared. The information should be revealed on a prearranged overhead transparency or on a chart or chalkboard (which has been covered

until this point). The lesson should proceed quickly and be interspersed with practice activities (these may be narrative, inductive, deductive, transductive, or rule governed). When the lesson has been completed (after 5 to 10 minutes), a seatwork time should follow. Again the teacher should move about the room, pausing briefly at each desk or work station. Using a technique called "pause, praise, prompt, and leave" the teacher should identify an example or exercise done correctly, praise the student for working hard, prompt him or her to pay attention to some item on the worksheet, and leave. This brief visit should not be extended even when the student seeks to be given further instruction. By moving from student to student about the room, the teacher will provide close supervision to all students and not allow one or two students to dominate his or her time. When the teacher does not stay for an extended period with any one student, explaining in detail, the students soon learn to listen during the lesson rather than rely on personal instruction during seatwork.

When students are strongly bonded (after three or four weeks with a teacher who avoids criticism and makes liberal use of reinforcers), they will be very responsive to losses of teacher attention and her symbols of approval. They will strive to be on task in the presence of the teacher and will voluntarily initiate work soon after entry to the classroom. A glance or approach by the teacher will motivate, not by fear of disapproval, but by a desire to maintain or restore the strength of the relationship established with the teacher. Observers will not be able to see the bond itself but will be impressed by the manner in which the students go about their work without verbal reminders of rules and teacher expectations.

Practice Activity

The following narratives describe fictitious classroom situations. The first is about a secondary class; the second concerns an elementary class. After each stage in the narratives, analyze the events in terms of close supervision. What actions or strategies served to facilitate, or inhibit, the teacher's attempts at close supervision? What could have been done to prevent some of the problems that occurred?

1a. Mr. Hoover's ninth-grade literature class has just begun. Before he says a word to the class he takes a few minutes to write on the board the three activities he has planned. He also includes that night's homework assignment. The first activity is to do oral reading from poems by Robert Frost. The first student is selected randomly to read from the podium at the front of the room. Mr. Hoover stands at the back of the room and continues to call on students in random order. The activity is taking longer than expected because students such as Eric, the class clown, are hamming it up as they travel to and from the podium.

b. In an effort to keep his time allocation on target, Mr. Hoover cuts short the readings and moves into a writing assignment. Each student is to write a paragraph or two about their emotional reactions while listening to the readings. Again, time is lost when several of the students walk about borrowing paper because they did not have their notebooks with them. Once the students have settled down, Mr. Hoover moves about the room. He concentrates on being near the students he knows have difficulty with creative writing. Beth and Joanna are beginning to talk about last nights game, and Mr. Hoover quickly moves to the board and writes their names on the board. The two girls return to the task at hand.

c. The time allocated for the second activity has elapsed, and all the students have completed the assignment. The students are asked to arrange their seats in a circle. When this is done Mr. Hoover, who is seated with the students, leads a discussion of emotional imagery in writing. Maggie is called on to answer a question, but asks instead if she could go to the bathroom. This results in many giggles and a break in the discussion. No sooner does Mr. Hoover get the class back on track then the bell sounds, ending the period.

2a. Mrs. Taylor's fourth-graders are all in their seats reading the first four pages of chapter six in their science text while she is at her desk correcting papers. There is a sudden commotion in the back of the room, and Mrs. Taylor looks up to see Jennifer out of her seat picking up papers that are scattered on the floor. "That"s it!" says Mrs. Taylor, "No recess for you." Jennifer starts to respond, but Mrs. Taylor cuts her off and reminds her that the instructions were to work quietly at their seats. She does not see little Regina giggling to herself because she was the one who knocked Jennifer's papers on the floor.

b. At this point Mrs. Taylor walks over to see how Leland who has a reading problem is doing. He appears to be doing well, but she also notices that Sherry has a puzzled look on her face. Mrs. Taylor eases over and looks at Sherry as if to say, "Is everything okay?"

c. "I just don't get it," says Sherry. While she is assisting Sherry, Mrs. Taylor notices that Ed has his hand raised. She winks, holds up her hand, and Ed goes back to his reading. Before she checks back with Ed, Mrs. Taylor does a quick scan of the room and finds everyone has gone on to the problems at the end of the chapter as he or she was told to do.

d. Ed is having trouble with the first problem so Mrs. Taylor writes out a few simpler ones for him on the back of his paper. He zips through the first two with high praise from his teacher. The third problem is tough. Ethel is playing with the knitting she has in her desk. Mrs. Taylor keeps waiting for Ed to work out the problem. Ethel keeps knitting. Finally Ed starts to cry because he cannot do the problem. Mrs. Taylor comforts Ed and tells him to go on to the next problem in the book because he really does know how to do it.

e. Mrs. Taylor returns to her desk and takes the papers she is grading with her as she circulates around the room. As the students raise their hands she responds to their questions. Ethel is still knitting and now Tom is more interested in that than his math. Noticing Tom's attention is not on his task, Mrs. Taylor sharply tells him to get back to work. Several students look up and try to see what is happening. Mrs. Taylor continues to glare at Tom while Ethel slips her knitting away undetected.

Responses to Practice Activity

Analysis 1a: Mr. Hoover should have written the information on the board before the students arrived, but probably better late than never. Reading in order may have worked better than reading randomly, and time could have been saved by having the students read from their seats. Being at the back of the room provides a good vantage point from which to monitor the students.

Analysis 1b: Having the assignment on the board helps smooth transitions. Mr. Hoover should make more effort to have all students come to class prepared. He shows "withitness" by being near students he suspects might need help. Beth and Joanna obviously know what it means when their names are on the board, and this was handled very well with no disruption.

Analysis 1c: Having to rearrange the room is very disruptive. All the activities could have been conducted in the circle, which also enhances the teacher's visual contact with students. Maggie's exit could have been less disturbing if rules were clearly set ahead of time.

Analysis 2a: Mrs. Taylor should not be so involved with her desk work, as it led to accusing the wrong student. If she had been monitoring, this whole situation might have been avoided.

Analysis 2b: Checking on Leland was appropriate; noticing Sherry's confusion also showed "withitness." By using a facial expression the teacher allowed the student to initiate the assistance activity.

Analysis 2c: Using a nonverbal cue (the wink) was an excellent way to keep Ed on task in a quiet manner while working with Sherry.

Analysis 2d: This shows how timing errors can be upsetting. Mrs. Taylor waited too long and Ed became totally frustrated. She was not aware of Ethel. If Ed really knew the work, Mrs. Taylor was actually working against him.

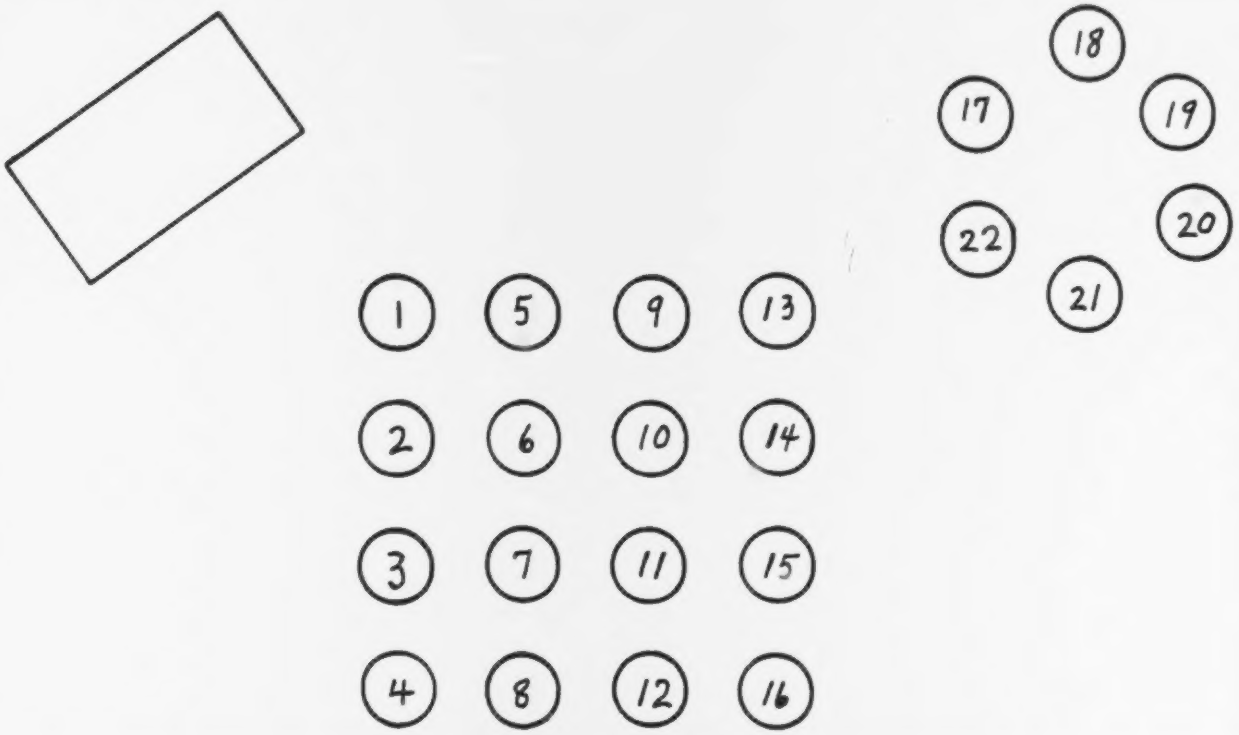
Analysis 2c: Mrs. Taylor was "overlapping," or working on two things: grading her papers and monitoring the class. Unfortunately, she made an error by scoling Ed when it really was Ethel who created the diversion.

Practice Activity

Arrange for the observation or video taping of a lesson which you know will include seatwork and during which you will be able to move about and provide student assistance. Prepare a chart similar to the sample on the following page (Figure 2). Include the locations of your own desk and those of your students. You or your observer can then complete the chart according to the coding system described.

By interpreting the coded responses for each student, you will be able to determine the degree of success you had while closely supervising your students. Strive for as many positive attended situations (PAS) and as few negative attended situations (NAS) as possible. Unattended situations (US) and avoidable interuptions (AI) should be minimized. Unavoidable interruptions (UI +/-) should be handled positively.

Figure 2. Seating Arrangement Chart


18
17
19
20
22
21
1
5
9
13
2
6
10
14
3
7
11
15
4
8
12
16

TIME	OBSERVATION
11:07	7 - PAS
:09	8 - PAS 21 + 22 - US
:12	9 - UI+ 16 US
:15	21 + 22 + 23 AI 4 NAS
:17	1 - UI -

PAS = Positive Attended Situation

NAS = Negative Attended Situation

US = Unattended Situation

AI = Avoidable Interruption

UI = Unavoidable Interruption (Use + or - to indicate whether teacher's response was or was not appropriate).

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AWARENESS

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DEFINITION OF COMPETENCY

The competent teacher knows that effective classroom management depends on knowing what is occurring in the classroom and assuring that the learners perceive that the teacher knows what is going on.

OBJECTIVE

Competent teachers know that effective instruction and good classroom management does not happen accidentally, but must be carefully planned and systematically implemented. They also recognize that they must develop a comprehensive and well-conceptualized approach to instruction and classroom management that integrates both theory and research findings. A failure to do this will force teachers to rely on a band-aid approach, frequently emphasizing simplistic and gimicky panaceas. The purpose of this chapter is to help you recognize the many verbal and nonverbal events that are going on in classrooms. We will suggest ways to increase your awareness of these events so you can increase learner participation and reduce classroom disruptions. Furthermore, we will offer suggestions for making your students aware of your "teacher awareness."

BACKGROUND KNOWLEDGE

Of what should a teacher be aware during a teaching lesson? Indeed, what happens in the classroom while you are teaching? Because the classroom is such a busy, complex place, it is impossible for you to notice everything that is occurring. Also, you are engaged in the task of teaching so it is not always easy to observe all your students' behaviors, let alone to monitor your own actions. Yet it is important to observe key aspects of both your students' and your own behavior to guide your instructional and classroom management decisions.

You are constantly making decisions while you teach. One researcher has estimated that teachers make as many as 1,300 decisions each teaching day (Jackson, 1968). These decisions can be as varied as dealing with Frank's out-of-seat episodes, Sally's calling-out answers, Terry's need for extra guidance, or Pat's ability to finish assignments before the rest of the class. In all these decisions you are considering many different kinds of information.

One important source of information for instructional decision making can be classified as Antecedent Conditions (Shavelson & Stern, 1981). While you are planning your instruction, you ought to consider (1) information about students (their past behaviors, present abilities, or general willingness to participate), (2) aspects of the instructional task (the subject matter, lesson goals, or available materials), and (3) characteristics of the classroom or school environment (learning climate, group cohesiveness, or extra-curricular pressures). You should examine this information in relation to your teaching attitudes, values, and beliefs.

Another important source of instructional information can be classified as Classroom Interactions. While you are actively teaching the lesson you so carefully planned, you ought to consider (1) student involvement in the lesson, (2) student understanding of the lesson objectives, and (3) student readiness for more or different learning. To ascertain these outcomes you need to interpret the students' behaviors during your teaching. Yet because there are so many potential behavioral cues, you need to be aware which cues are most suggestive and what actions you can take to produce the desired student outcomes. In this section we will introduce you to important observational cues, interpretative strategies, and classroom actions you can take to remain instructionally "aware" and communicate that awareness to your students.

Antecedent Conditions

The knowledge teachers have about Antecedent Conditions influences both the preactive (planning) and interactive decisions they make about subject matter content, instructional tasks, and classroom management.

Information About Students

No two students are identical. Each student comes to the classroom with a unique set of personal characteristics which play an important role in what and how he or she learns. In order to plan and implement effective instruction and classroom management, you need to be aware of a variety of information about students. Intelligence, past achievement, self-concept, academic motivation, and level of development are just some of the many variables that have been identified and studied as precursors of learning. To the extent that you can become sensitive to these variables and assess their influence on student learning and behavior, you can function as an effective decision maker.

Cognitive development is one of the most important aspects of development for you to understand. One of the first questions you need to ask yourself about students is, "What is going on in the heads of the students I am teaching?" In other words, what concepts are they capable of understanding and what types of reasoning patterns are they using? By assessing the types and levels of reasoning patterns students use in approaching learning tasks, you can design effective instructional techniques and select materials that students are capable of understanding. According to Piaget (1970), the clinical interview (a method of critical exploration) offers teachers an assessment strategy that enables them to determine their students' present levels (or stages) of cognitive functioning. The clinical interview involves presenting different kinds of problems to students and questioning them about how they approach the problems and arrive at their answers. Through systematic questioning and probing, you can discover the reasoning pattern students are using to solve problems. (Books that will help you understand the reasoning of your students include _Piaget for the Classroom Teacher_ [2nd ed., 1984] by Barry Wadsworth and _Understanding Piaget_ [2nd ed., 1980] by Mary Pulaski.)

By using the clinical interview with young children, you will become aware that they are busy interpreting the world in ways that are consistent with their cognitive stage of development. While their inferences may seem inaccurate and humorous to an adult, they are perfectly logical and reasonable to a child. Your assessment will reveal that children do not reason in the same fashion as adults.

If you are teaching adolescents, you will find many of them capable of thinking abstractly and logically, of reasoning hypothetically and deductively, of recognizing implicit assumptions, of mastering hypothesis testing, and of appraising their own reasoning. In other words, these adolescents have reached the most advanced stage of thinking. However, you need to remember that the onset of adolescence does not necessarily mean that these reasoning capabilities will appear all at once. Individual variation in reasoning abilities exists and the transition from one stage of reasoning to the next is gradual and overlapping. Many students may be in a transitional stage, showing inconsistencies in the reasoning patterns they use in solving the multitude of tasks presented in classrooms.

Knowing the cognitive level at which your students are functioning and the reasoning patterns that each child is capable of using is crucial if you are to select and present tasks at an optimal level of complexity, neither too easy nor too hard. Cognitively challenging tasks are more likely to arouse interest and maintain the attention of your students than are unchallening tasks.

Practice Activities

It is important to become aware of the developmental characteristics of your students. Visualize one of your classes and concentrate on the variety of behaviors you have observed. Take a few moments to answer the following questions. You should write out your responses and attempt to clarify and evaluate your thoughts and feelings. Finally, speculate about the implications these characteristics have for your teaching.

1. How do your students reason or think? How does their thinking differ from yours? Do they operate at a concrete or abstract level? Are your students intellectually curious? Are they more interested in possibilities than realities?

2. Are your students egocentric in their thinking? Are they capable of understanding another person's perspective? Do they recognize that the other person understands their view? What are their perceptions of you as a teacher? How do they view your interactions with other students? What is their perception of other school personnel?

3. Are your students developing a sense of autonomy? Are they inhibiting feelings of genuine accomplishment? Are they developing a sense of identity? Do they interact in positive ways with their peers? How do they express their individuality?

Social cognition. Recently, cognitive developmental theorists have begun to study social cognition. They have focused on what developmental changes take place in children and adolescents. As children mature, they develop abilities to reason about moral and ethical issues, to take the perspectives of other persons, to understand themselves and others, to conceptualize interpersonal relationships with parents, friends, and authority figures, and to understand social conventions and social institutions. Becoming aware of these developmental changes will help prepare you for the wide range of reactions your students will display in your classroom.

Robert Selman (1980) has formulated a theory of social perspective taking that views role-taking skills as proceeding in a sequence of stages. During the early elementary years, children begin gradually to differentiate their own interpretations of a situation from those of others and to realize that a person's overt actions or words may not reflect inner feelings. However, they do not realize that their perceptions may be influenced by how they think others view them. Toward the end of the elementary school years, children are capable of taking a more detached and analytical view of their own behavior as well as the behavior of others. They understand their expectations of themselves and those of others in a variety of interpersonal settings. It is at this time that students can conceptually "place themselves in the shoes of another" and view themselves from that vantage point. Although the sequence of these changes is always the same, the ages at which children go through the sequence vary widely.

Students social perspective-taking abilities strongly influence their conceptualizations of teachers and teacher behavior--what teachers are like and what they think, feel or intend. They actively interpret and draw inferences about what is happening in the classroom. Unfortunately, their view and your view may not correspond.

Nature of the Instructional Task

In planning instruction, you need to be aware of the many elements in a classroom situation that can directly or indirectly affect both your behavior and the behavior of your students. Two factors that have been identified as influencing teacher and student behavior are the physical arrangement of the classroom and the structure and sequence of the lesson (Brophy, 1983).

Arranging the physical setting for lessons includes making decisions about classroom space, furniture, equipment, and supplies. In planning the instructional setting, you need to consider your instructional objectives and the characteristics of your students. The physical setting of your classroom should be designed to use your available space efficiently and to encourage orderly movement from one activity to the next with as few disruptions as possible. You need to be sure that the physical arrangement of your classroom is conducive to student involvement and allows you to monitor your students continually. It is important that students be able to see instructional presentations easily and that they can be easily seen by you. If there are not clear lines of sight between you and your students, it will be difficult for you to monitor attention and prevent disruptions.

The structure and sequence of a lesson refer to the specific organizational components and phases of the instructional activity. The structure of the lesson may involve whole class instruction, small group discussions, or independent seat work. The sequence of the lesson involves the functions the teacher or students carry out from the beginning to the end of an activity. It is important to remember that variations in student involvement and disruptions are associated with different types of instructional activites and with different segments within these activities. For example, in order to maintain student attention and involvement during large group instruction, it is important that you focus your students' attention and explicitly structure the lesson, proceed in small steps but at a brisk pace, ask a great number of questions, and provide prompts and precise feedback. In managing seatwork, you can enhance involvement by making sure your students are capable of succeeding at the task, breaking the instruction into small segments, and actively circulating among the students, asking questions and giving explanations (Rosenshine, 1983).

Practice Activity

Have a colleague videotape a 20-30 minute lesson. View the tape and identify segments of the lesson in which you deliberately attempted to engage your students in the learning task. Also, identify points in the lesson at which you attempted to increase arousal or the level of concern of your students. Select three or four students and view the tape with them. At the points of the lesson you have previously identified, stop the tape and attempt to assess if the students were aware of what you were trying to do and why. In order to get responses, you will have to ask explicit questions, such as, "Can you describe what I am doing now?" "Why did I do that?" "What do you suppose I want you to be doing (attending to, thinking about, remembering) now?" "Was it clear what you were suppose to be doing?" "How could I have made it clearer?" You will have to probe your students in order to assess the cognitive processes in which they were engaged at that point in the lesson. Don't be surprised if many of your instructional moves failed to promote the type of behavior or thinking you intended (see, e.g., Peterson & Swing, 1982).

As you proceed through a lesson, your motivational tasks will change. During the initial phase of an instructional activity, you will need to stimulate student interest and focus attention. For example, to get students interested in Japan, you could begin the lesson with a class discussion of what first comes to mind when they think of Japan. Myths and common stereotypes about Japan could be explored. Asking students to develop a list of questions about what they want to know about Japan would enable you to assess their level of knowledge and identify their existing interests. Additionally, specifying clear and explicit instructional goals helps focus students on what is to be learned. Allowing student choices among learning activities is an excellent way of capitalizing on student interest and facilitating involvement.

After starting a lesson, you will need to make certain that students maintain their involvement. This can be accomplished more easily if, whenever possible, you allow students to control the pace and tempo of the instructional activity. You can vitalize your classroom presentations by planning your use of movement, body language, pauses, and auditory and visual aids. You should capitalize on the arousal value of suspense, doubt, uncertainty, bafflement, and contradiction. Creating learning situations that facilitate active participation by students helps to keep them involved. Designing a sequence of instruction so that your students experience initial success is critical in maintaining interest. It is also important to minimize aversive consequences of involvement. Finally, it is important that you plan and organize your classroom to allow for variety and flexibility in your teaching.

Practice Activity

Student involvement can and should be positively reinforced. This can be accomplished by providing feedback that emphasizes the positive and by liberally using praise. Consult veteran teachers in your school and solicit suggestions for using praise effectively. (The chapters on REINFORCEMENT and LEARNER SELF-CONCEPT provide additional guidelines for using praise.) Task involvement also can be increased by minimizing unpleasant consequences of involvement. Brainstorm with your students classroom events or occurrences that led to aversive effects. Analyze your own behavior to determine if it was a contributing factor.

The Classroom and School Environment

Every classroom exists in a psychosocial context that influences what happens in the classroom. For our purposes, classroom environment (or climate) refers to the perceived atmosphere of the classroom that manifests itself in the attitudes and feelings teachers and students have toward each other and the learning tasks. (The chapter on AFFECTIVE CLIMATE explores this concept in depth.) Climate can be seen and heard in how students talk and act toward one another, how they approach learning tasks, and how they relate to the teacher. The classroom environment influences your judgments and decisions as a teacher and, in turn, is influenced by them. When interactions are characterized by defensiveness, fear, rejection, alienation, and hostility, learning and personal growth are inhibited. School environments that manifest the characteristics of openness, friendliness, acceptance, belonging, and trust facilitate learning and personal growth. There are several strategies you can use to assess your classroom environment and, if necessary, to develop a "sense of community."

Climate surveys are an excellent way of assessing your classroom atmosphere. Published instruments for the high school level include the Learning Environment Inventory (LEI) (Fraser, Anderson, & Walberg, 1982) and the Classroom Environment Scale (CES) (Moos & Trickett, 1974). Classroom dimensions that are assessed on the LEI include friction, satisfaction, speed, and goal direction. Items on the CES focus on affiliation, task orientation, rule clarity, and innovation. At the elementary school level a 25-item version of My Classroom Inventory (Fraser & O'Brien, 1985) has been developed to measure class satisfaction, friction, competitiveness, difficulty, and cohesiveness. The survey form listed in Box 1 on the following page is one of many possible instruments that could be developed to solicit student feelings about your classroom atmosphere. Alternate procedures include open or structured interviews with your students or observations of your classroom by colleagues. Self-diagnostic inventories that focus on your behavior and how it influences the classroom atmosphere can be given to your students in order to determine their perceptions of your behavior. In implementing these strategies, it is important for you to seek honest feedback. An open discussion of the results may facilitate a more positive and cohesive classroom atmosphere.

Practice Activity

Administer the climate survey in Box 1 to assess your students' perceptions of your classroom environment. Feel free to add terms or change items in order to fit the survey to your particular grade level and classroom situation. You may want to administer the survey twice--once to assess the actual (or real) environment and once to assess your students preferred environment. Do not be surprised if you perceive the

Box 1
Sample Classroom Climate Survey

Directions. Please mark the appropriate space on the continuum which best describes our classroom. The atmosphere of this classroom:

Encourages personal responsibility	1	2	3	4	5	Encourages conformity
Recognizes accomplishment	1	2	3	4	5	Ignores accomplishment
Is interesting	1	2	3	4	5	Is boring
Is cooperative	1	2	3	4	5	Is competitive
Is organized	1	2	3	4	5	Is chaotic
Accepts feelings	1	2	3	4	5	Ignores or rejects feelings
Sets high expectations	1	2	3	4	5	Expectations are low or non-existent
Is satisfying	1	2	3	4	5	Is dissatisfying
Is safe	1	2	3	4	5	Is dangerous
Is relaxing	1	2	3	4	5	Is tense

environment more favorably than your students. If there are large discrepancies between your actual classroom environment and that preferred by your students, you may want to attempt to change the environment. Ideas for changing your environment can be developed by carefully analyzing the terms you used in your survey. For example, if your students feel that your classroom environment is too competitive, you can develop a more cooperative goal structure in order to facilitate involvement and group cohesiveness.

Classroom Interactions

In an effort to differentiate successful classroom managers from unsuccessful ones, Kounin (1970) analyzed videotapes of teachers conducting their regular classroom lessons. However, Kounin's initial attempts failed because he and his associates could detect no significant differences in the ways these teachers dealt with student inattention, disobedience, and misbehavior. Fortunately, they did discern one important distinction between teachers who have "smoothly running" classrooms and those who have "chaotic" ones. Successful classroom managers were more successful because they reduced the frequency of trouble, not because they were more skilled in handling disciplinary problems when they did occur. These successful teachers kept their students involved with meaningful work so there was less opportunity or reason for them to cause disruptions.

Among the specific characteristics of these successful classroom managers was a quality Kounin called "withitness." Teachers who communicate to their students they know at all times what is going on in the classroom have "withitness." Teachers who are "with-it" notice the first signals of deviant student behavior. They then initiate an identifiable action to deal with this misbehavior. These teachers made few errors in either the target of the deviant behavior or in the timing of their corrective intervention (Kounin, 1970). In other words, teachers having "withitness" dealt with the initiator of the misbehavior before the problem increased in seriousness or spread to other students in the classroom. (While this term attempted to define the "with-it" teacher, it might better be labeled "awareness" since it refers to a teacher who "has eyes in the back of his or her head.")

How can you become a "with-it" teacher? The best strategy is to learn to observe student actions, interpret the likely meaning of these "messages," and react to these behaviors in clear, positive ways. One way to simplify the analysis of the many actions occurring in a classroom is to categorize behaviors as "Input," "Processing Decisions," or "Output." Input would be the student verbal and nonverbal cues that you observe; Processing would be the interpretations you make of what you see in light of your own knowledge and attitudes; Output would be the verbal and nonverbal action you take to send a message to your students.

Input: Student Cues

When you are conducting your lessons, students may respond in many varied ways. Paul stays attentive during your lesson, offering appropriate reactions and asking intriguing questions. Peter also stays alert throughout the lesson, but he typically only makes humorous or irrelevant comments and appears bored with the topic being studied. Ruth looks at you during the lesson, appears to understand what is going on, but never spontaneously offers any comments. Felix looks right through you while you talk as if he were watching a different program entirely. Rhonda does not even appear to be interested in what the class is doing. What are the clues that might allow you to determine the attention level, interest level, and understanding level of the students in your class?

Students provide you with two main channels of information--verbal and nonverbal cues. The questions they ask, the comments they make, and the general noise level during class discussions or seatwork all provide you with helpful verbal cues to the effectiveness of your teaching activity. Hennings (1975) has suggested that students' verbal messages be observed according to a 2 x 3 category system such as that shown in Figure 1 on the next page. The following practice activity will help you to examine the verbal messages of your students.

Figure 1
Classifying Students' Verbal Messages

	TYPE	
PURPOSE	**Contributing**	**Being**
Response to Teacher		
Response to Other Students		
Initiation		

Note: From Hennings, 1975.

Practice Activity

Tape record a classroom discussion you are leading. Then perform the following simple analyses:

1. Count the number of comments, statements or questions made by you and those made by students. Who is talking most, you or the students?

2. Now use a stopwatch to determine the amount of teacher, student, and multi-participant talking and the amount of silence. What percentage of time is spent on "teacher talk," on "student talk," and in silence or confusion? Is this percentage what you expected or desired?

3. Using the recording sheet in Figure 1, follow these steps to classify each student comment according to Hennings' 6-category method:

a. Classify each student's statements as "Contributing" or "Being" by placing checkmarks in the appropriate boxes. A "Contributing" statement is one that is related to the ongoing lesson or classwork, such as, "I believe he was our only fourth-term president" or, "Would the Depression have really ended without World War II?" A "Being" statement is a non-learning-related statement, such as, "I'm too hot to work on this worksheet," or "When are we going to finish this book?"

b. Identify whether each statement is a Response to the Teacher, a Response to Other Students, or an Initiation Without Teacher Prompting.

c. Tally the student's remarks in each box to determine the tone of your students' class participation. What is the most frequent kind of student statement? Again, is this what you wanted for this discussion?

4. Finally, identify each student who made a comment during the discussion by recording his or her contribution on a seating chart of your room. Do certain students tend to make the same category of remarks? Does their position in the room affect their participation in the lesson? How do these student participation patterns affect your learning goals for class discussions?

Students provide the aware teacher with more than just verbal messages during learning activities. Sara focuses her eyes on the speaker during class discussions, while Emily tends to stare into space. Kevin smiles and nods his head as he listens to a fellow student, while Fred grimaces and moves excitedly in his seat. Gary constantly fiddles with his pencil during class discussions, while Brenda glances expectantly at students seated around her. Even when students are not speaking they can be sending messages regarding their attentiveness, interest, and understanding.

In her book *Mastering Classroom Communication*, Hennings (1975) has constructed a guide for analyzing student nonverbal language. She identifies three kinds of nonverbal messages--Language of Participation, Language of Being, and Language of Heightening.

There are two forms of nonverbal cues indicating Participation. When students make motions that place them in the center of an activity and involve them directly with others, they are "contributing" (Hennings, 1975). Examples of nonverbal student behaviors that would fit this type of communication are raising or waving hand, actively moving at desk, pointing, making exaggerated facial expressions, or vigorously shaking head.

Hennings defines the second form of Participation messages as "engaging." The purpose of these nonverbal gestures is to help the student be involved with the learning activity on an individual basis without contributing directly to the overall class learning environment. Examples of these "engaging" behaviors are orienting body in the direction of the speaker, leaning forward toward the speaker, moving head, smiling or frowning at another's comment, wrinkling forehead, raising eyebrows, squinting eyes, pursing lips, pointing finger, or tracing on written materials. While these Participation movements may vary among individual students, a teacher who actively observes and notes these nonverbal cues can better judge the typical reaction patterns of each student as well as the overall level of class involvement and understanding.

The Language of Being involves body language that indicates a lack of attention or an attempt to distract or socialize, to adjust one's self, or to carry out other activities. Examples of these nonverbal cues include glancing continually out a window, not focusing attention on the speaker, staring vacantly into space, making faces at other students, making "irregular" hand gestures; poking other students, exchanging quick looks and knowing smiles with other students, moving close to another student, or making any habitual personal gesture. The aware teacher can often judge student restlessness, fatigue, anger, anxiety, confusion, or sociability through observation of these nonverbal behaviors.

The final type of nonverbal message fits the Language of Heightening category. This involve the gestures that accompany verbal communications and make the meaning more emphatic and/or explicit. Examples of this body language in students include making hand gestures while giving an oral report, changing body posture to indicate a change in topic or idea, pantomiming motions to express a particular emotion, altering facial expressions to reinforce the intensity of spoken words, lightly touching the arm of the person being addressed, pounding the desk to express frustration or anger, and even pausing, which can dramatically enhance the meaning of a communication. Naturally, you will find some students to be more expressive with their nonverbal communications, yet even these individual differences may allow you to understand better the "hidden meaning" of their verbal communication.

Pratice Activities

1. Observe the nonverbal motions made by students in your classroom (or, better yet, videotape the students during one of your lessons). Classify the behaviors you see as Participation-contribution, Participation-engaging, Being, or Heightening. When a lesson is going well, what kinds of nonverbal messages are being exhibited? When a lesson is not going well, what is the distribution of these nonverbal student behaviors?

2. Using a series of classroom observations or videotaped classroom interactions, try to develop a nonverbal behavior profile for each student in your class. Which students communicate the same message verbally and nonverbally? Which students often communicate a different message with their body language than their oral language? If there is a contradictory message, which channel do you emphasize in trying to interpret what the student is feeling or thinking? Looking at just nonverbal cues, which students would you rate high on concentration, motivation, and perseverance? Which students suggest a low degree of these qualities based on the intensity of their nonverbal cues? Are there certain conditions under which identifiable, characteristic motions for each student tend to appear? Which students are better able to use nonverbal messages with their fellow students? Do some students appear more or less sensitive to the nonverbal messages of their classmates? As you selectively attend to the many student nonverbal cues in a typical classroom interaction, you will be better prepared to interpret the underlying message being sent.

Processing Decisions: Teacher Interpretations

Given all the verbal and nonverbal messages that students project in the classroom, do teachers actually attend to these cues and use them in their teaching decisions? Furthermore, even if some teachers seem to be aware of these messages, how can a new teacher learn to make sense of the enormous amount of student information in classroom interactions?

Woolfolk and Brooks (1983) examined the limited research on nonverbal communication in teaching and concluded that students' use of interpersonal distance, visual attention, voice quality, smiles and frowns can influence teachers' impressions and expectations about students. They wrote, "it seems that teachers form positive impressions about students who evidence the nonverbal behaviors usually associated with interest, involvement, approval, or liking" (p. 109).

Sometimes teachers interpret cues about students in such ways that their own nonverbal behaviors are influenced. Reviewing empirical studies of laboratory tutoring situations and live classroom interactions, Woolfolk and Brooks (1983) again concluded that the teacher's own interpersonal distance, body lean, voice tone, facial expressions, eye gaze, and affirmative or negative head nods may reveal their own attitudes toward students. A number of studies have shown that teachers use more positive nonverbal language (such as forward body lean and smiles) to students they assume to be bright, to students of their own race, and to students they like (Woolfolk & Brooks, 1983).

Knowing that all teachers do interpret the nonverbal and verbal messages of their students encourages each individual teacher to monitor consciously his or her reactions to particular students. This is especially important when a teacher is dealing with students from a cultural or racial group other than his or her own. A teacher should also be careful about making inferences about students' sensitivity to the teacher's own nonverbal cues unless these cues have the same meaning in the students' culture. In fact, cultural differences between teachers and students from different parts of the country may preclude the same interpretations of communication patterns.

Practive Activities

1. Examine your own interpretations of nonverbal language cues you observe in your students. Make two columns headed by the labels "Positive" and "Negative." Place each of the following cues in a row under the two headings: eye movements, gestures, body stance, physical distance, touching behavior, speed of action, and vocal effects. Then list specific student behaviors that you interpret positively and negatively for each of these cues. After you have finished this list, analyze your interpretations to see if there is any cultural, racial, or sexual bias in your preferences.

2. Another exercise you can do is to list each student you teach and develop a "dictionary" of their nonverbal "vocabulary." How does each student communicate enthusiasm, receptiveness, inattention, boredom, disapproval, understanding, and confusion? Try to pinpoint at least one nonverbal cue for each student attitude or thought that sends this message to you.

Of course the verbal responses of students are also important features in the classroom interaction process. It can be very helpful to the beginning teacher to be able to interpret two aspects of students' "talk": thinking level and covert meaning. First, aware teachers should be able to evaluate the thinking level exhibited by their students' statements. Hennings (1975) suggests a six-category system for analyzing student utterances according to thinking level: (a) recalling--thinking that requires retrieving information already in the student's memory, (b) reflecting--thinking that requires translating ideas or concepts into the student's own words, (c) relating--thinking that identifies interconnections between ideas or concepts, (d) projecting--thinking that goes beyond what is given to hypothesize new relationships or systems, (e) inventing--thinking that is imaginative and creative, and (f) valuing--thinking that represents a personal judgment or opinion supported by communicable reasons. Other educators have created similar taxonomies to classify student responses. Bloom's taxonomy, for instance, is discussed in the chapters on QUESTIONING and EVALUATION. The key similarity among these classification schemes is the distinction between recall of fundamental knowledge and those higher-level activites more associated with human understanding. While it is also important for a teacher to stress the memorization of basic information at all levels of a student's schooling, it is important not to neglect other cognitive operations such as reflecting, relating, projecting, inventing, and valuing. Overemphasis of any one type of thinking restricts students' educational experiences and their intellectual growth.

Practice Activity

Tape record a classroom discussion and classify each student's statements according to Hennings' six levels of thinking. (If you find making discriminations that fine to be too difficult, just categorize the statements as either "Recalling" or "More than Recalling.") How does the context of student comments affect your analysis? What did you think of your students' statements during the actual discussion? Upon this further analysis do you have different interpretations? Do you believe the percentage of Recalling statements is too high, too low, or just about right? What is your justification for your interpretation? What kinds of higher-level statements should your students be offering? What kinds of teaching actions would tend to increase these types of comments?

The second kind of "student talk" analysis involves your interpretation of a student is overt (evident) and covert (hidden) message. Thomas Gordon, in his 1974 book Teacher Effectiveness Training, stresses the technique of "active listening." Gordon argues that most listening is relatively passive and seldom reveals whether the listener has actually understood the speaker's message. He suggests that teachers check their interpretation of a student's oral message by sharing their decoded interpretation of the original message. By providing the sender with feedback of your interpretation, you can get confirmation of the correctness or incorrectness of your decoding. For example, if a student complains, "This new chapter doesn't make any sense. It's too hard for me to understand," you might interpret the underlying message to represent that student's inability to spend enough time to complete that assignment. Your active listening response might be, "You're afraid you won't have time to finish our next assignment." If you are wrong, the student will most likely correct you by continuing, "No, I could spend the time on it if you would just show me how these problems relate to the ones we did last week." The point of active listening is that you keep the communication channels open rather than closing them by responding prematurely to student messages with orders, warnings, criticisms, advice, praise, or even sympathy.

Practice Activity

To experience the many uses of active listening you need to try it with your own students. Commit yourself to try active listening with at least one student comment each hour of the school day. As you listen to the student's words, think of the most likely message he or she is trying to communicate. Mirror your interpretation back to the student. Continue this type of active listening until the student has solved his or her own problem or until it is clear you need to provide more help in the problem solution. Gradually increase the number of times you use active listening each day until you feel comfortable in using this interpretation and feedback strategy whenever open and straightforward communication is required.

Output: Teacher Actions

Once you have observed a student behavior and interpreted its meaning, it is time to communicate your own message to that student or to the class as a whole. Such communication can be made verbally and nonverbally.

Obviously, many of the classroom verbal messages sent by a teacher relate to the instructional process. You gain the attention of your students by adopting a standard method to signal the formal start of the lesson. (Perhaps you are comfortable just saying "Okay, class, it's time to begin today's lesson." Or you may prefer a more directive opening, "Everyone please turn to page 229 in your text." Regardless of your personal preference, you should develop a predictable, standard way to mark the start of a new activity or the transition to a new topic.) You introduce new concepts by presenting new information and new ideas. You encourage student thinking and involvement by asking them different types of questions. You react to their answers by giving them corrective feedback, praise, criticism, or further questions. In all of these verbal messages your objective is to strengthen the instructional interaction.

Sometimes, however, you want to send verbal messages to deal with student misbehavior and influence overall classroom management. Thomas Gordon (1974) argues that typical discipline "solution" messages, "put-down" messages, or "indirect" messages are doomed to fail more often than they succeed. When teachers order ("Stop that talking right now!"), threaten ("If you don't spit that gum out this instant, you can wear it on your nose the rest of the class."), moralize ("I expect sixth-graders to set the example for the rest of the school to follow."), lecture ("Class assignments won't get done unless you start on them."), or advise ("Talk to each other on your own time, not during our lesson time."), they are using familiar, but ineffective kinds of communication. According to Gordon these solution messages often fail because they portray the teacher as THE AUTHORITY who makes all the decisions. Even when the teacher gets compliance, Gordon believes it is often accompanied by student resentment.

He sees teacher put-down messages ("You're acting like first graders."/ "You never remember to bring enough paper to class."/ "You could be a good student if you applied yourself."/"And where do you think you're going!?") as even more destructive of students' self images. Indirect messages using sarcasm, oblique humor, and vague digressions ("When you finally know it all, then we will be glad to listen to your spontaneous outbursts."/"So when did you become the teacher?"/"Sometimes I dream that you'll become a teacher and have a class full of students just like yourself.") also seldom work because they are either not understood or too easily ignored. Such indirect comments may also lead the students to characterize the teacher as unwilling or unable to confront the problem directly.

Gordon's solution to these ineffective communication techniques is to recommend the use of "I-messages." These are teacher statements in which the focus is on the teacher's point of view and feelings rather than on a student's failure to meet expectations. Instead of saying, "You better quiet down or else!" Gordon suggests the teacher would solve his or her problem better by saying, "When I hear lots of people talking without permission, I really get frustrated because there's too much noise to permit concentration on the lesson."

Generally an I-message has three parts: a non-judgmental description of what is unacceptable ("When I hear lots of people talking without permission . . ."), the feelings generated within the teacher (". . . I really get frustrated. . .), and the tangible effect of that behavior (". . . because there's too much noise to permit concentration on the lesson"). Gordon believes this type of communication is more effective because it contains minimal negative evaluation of the student, does not injure the student-teacher relationship, and encourages the students' willingness to change.

Of course these I-messages are more risky than sending blaming, guilt-producing "You-messages" because they involve disclosing inner feelings and needs, not always a comfortable thing to do. I-messages allow the teacher to take responsibility for his or her inner feelings about a problem while at the same time share the assessment with the student. Ideally, the student receiving the I-message will realize the concrete effects on others of his or her behavior and take responsibility for changing this undesirable behavior. However, there is always the risk that the student will fail to initiate this self-modification.

Practice Activities

1. Monitor the kinds of statements you make to students who are disobeying class rules. Do you send "solution," "put-down," or "indirect" messages? Do these messages usually result in the positive behavioral change that you seek? Are these messages as effective now as earlier in the school year? Do you feel comfortable relying on these kinds of comments?

2. The next time you find yourself in a class situation in which you are tempted to rely on one of Gordon's ineffective messages, try an I-message. What was the student's immediate reaction to your I-message? What was the effect on the student's later behavior? How did you feel about using the I-message? Since any new communication technique takes time to master, commit yourself to practice using I-messages. Try to increase the number of I-messages each day until you regularly respond with them even without consciously trying.

In addition to offering verbal messages a teacher can also communicate using nonverbal behavior. Grant and Hennings (1971) studied videotapes of classroom teachers to identify nonverbal behaviors in teaching. Their justification for this research was to understand more clearly the role of nonverbal "teacher moves" in communicating meaning to students. They were able to classify nonverbal instructional behavior into three distinct, reliably observable categories: conducting, acting, and wielding. While teacher moves in all three categories can be used for instruction, "conducting moves" in which the teacher controls participation and obtains attending behavior are most important in communicating teacher awareness. ("Acting moves" involve the teacher using bodily motion to amplify or clarify meaning. "Wielding moves" involve the teacher interacting with objects or materials in the room.)

Based on their research, Grant and Hennings suggest the following behavioral moves as options in your nonverbal teaching style. To indicate which students are to participate during the lesson, you can choose among the following nonverbal options: smiling at the designated student, focusing your eyes on the student, nodding at the student, turning your body toward the student, pointing at the student, walking toward the student, or touching the student. To communicate different nonverbal reactions to a student's participation, you can: use facial expressions, shake your head, shrug your shoulders, or make hand gestures such as the "okay" sign. To obtain student attention, you can choose among the following options: walk to the front of room, stand at attention, survey the class by making eye-contact, hold up your hand, pick up a textbook or lesson plan book, tap a desk bell, or flick the lights.

When you must deal with a misbehaving student, these nonverbal motions can be very effective because they make less of an issue of a minor infraction than a verbal statement might and because they do not interfere with your ongoing teaching actions. Grant and Hennings (1971) suggest several ways a teacher can signal the student to stop the disapproved action (see Box 2 on next page).

The use of these nonverbal teacher behaviors in conjunction with appropriate verbal comments can be an

Box 2
Non-verbal Deterrents to Student Misbehavior

1. Orient your body toward and focus your eyes on the inattentive student.
2. Frown at the child.
3. Raise your eyebrows.
4. Wave your hand at the child.
5. Shake your head in the direction of the child.
6. Point your finger at misbehaving child.
7. Raise your hand and arm in the direction of the child.
8. Snap your fingers at the child.
9. Walk toward the misbehaving child.
10. Put your hand on desk of misbehaving child.
11. Sit down near child.
12. Touch the child.
13. Touch the object the child is touching.

Note: From Grant & Hennings, 1971, pp. 98-99.

effective deterrent to student misbehavior. Furthermore, the use of consistent verbal and nonverbal communications provides a clear message to students that the teacher is in charge of the class and aware of the students' activities in that class.

Practice Activity

Ask a fellow teacher (or even one of your students) to videotape you while you teach a typical lesson. Review the tape paying special attention to your nonverbal body language. Use the following categories to observe your nonverbal behaviors: gestures, eye movements, body stance, distance from students, touch, and speed of motion. How frequently do you use these nonverbal behaviors? What kinds of nonverbal cues do you seem to prefer? Do you use different kinds of body language with different students? Why or why not? Were you conscious of the motions you used while teaching? Do you tend to have a verbal or nonverbal orientation? How can you communicate your nonverbal messages more effectively?

Conclusions

Because you must make so many quick decisions in dealing with students, it is important to think about possible teaching problems before they occur. As you plan your instructional and management activities, be aware of available information about your students, the nature of the instructional task you are presenting, and the classroom/school environment in which you teach. These antecedent conditions should be considered before you enter the classroom to teach the lesson. With careful planning you can provide meaningful activities directed toward important curricular goals that capture your students' interest and involvement. Maximize the productive work of your students and you will minimize their misbehavior.

When you are conducting a classroom lesson, you should remain aware of the many communication cues occurring between your students and yourself. When you are actively involved in classroom interaction, you need to follow set teaching routines. Get students' attention before you start a lesson. Keep their attention by reducing redundancy and dead time during the lesson. Monitor the many verbal and nonverbal cues they are sending during class activities. Regularly scan the classroom to discover signals of inattention, disinterest, or confusion. When you spot a potential trouble situation, interpret the seriousness of that incident. If it is a minor misbehavior that is likely to disappear on its own, ignore it. If it is a misbehavior that might spread to other students or disrupt the meaningful work of the class, stop it immediately. You can send a clear message to your students with nonverbal behaviors such as eye contact, head and body gestures, physical closeness, or touch. Sometimes, however, verbal messages become necessary when the nonverbal fails to solve the problem. As you decide how to invervene, remember the guideline to "eliminate the problem as quickly as possible and with as little distraction of other students as possible" (Good & Brophy, 1978, p. 196). As you master this overall classroom awareness, you will find yourself more in control of the teaching situation and more satisfied with your students' learning accomplishments.

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QUESTIONING SKILL

For any real number: a, b, c
Closure: a + b is real
a · b is real
Commutative:

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DEFINITION OF COMPETENCY

The competent teacher knows how to phrase questions and to use them to develop learners' academic knowledge. Asking questions is a major teaching tool, and the skillful use of questions has been extensively studied.

PURPOSE

The purpose of this chapter is to present the notion of questioning as an integral element of any teacher's repertoire of instructional strategies. A primary goal of the chapter is to enable you to incorporate questioning effectively into your teaching by describing the elements of questioning skills as well as specific strategies for employing those skills in the classroom. We begin by discussing the importance of questions and reviewing the pertinent educational research in questioning skills. Then, we explicate different levels and types of questions in some detail. We continue by examining the component parts of the interaction skills that questioning requires. We explore several common problems of teacher questions in hope of helping you avoid them in your own teaching. Finally, we present several exercises that illustrate the major principles of questioning.

BACKGROUND KNOWLEDGE

Questioning plays a curious role in our ideas about teaching. On one hand, the effective teacher is viewed as an explainer. There are a series of images etched in our minds--from Rip Van Winkle, his tattered coat waving in the breeze of his gyrating lecture to the cool smoothness of Lucas Tanner able to field all adolescent problems on the first bounce with common sense explanations. On the other hand, we admire the skillful discussion leader, who proceeds to unfold complex situations through the application of an adroit questioning style.

While questioning skills often appear to be magical and mysterious (Johnny Carson, for example, is paid millions of dollars a year, primarily because of his ability to raise lucid questions), there is, behind the apparently seamless flow of questions and responses, a systematic strategy that most teachers can incorporate into their classroom technique. That there is consensus among teachers about the centrality of questioning skill is indicated by a recent survey which asked teachers to identify the most important skills of good instruction. Various aspects of questioning occupied first, third, and fourth place in the list of responses (Davies, 1981).

The use of questions provides the teacher with an opportunity to accomplish many things that an expository lesson simply cannot do. In its simplest conception, a question serves a dual purpose: "it prods the respondent to think so as to supply a response, and it directs that respondent to think about a particular topic" (Hyman, 1979, p. 1).

More specifically, teachers should use questions to accomplish at least four major educational objectives, which are described by Davies (1981):

1. Provide motivation for the students by gaining their interest and attention.

2. Promote the thinking and mental activity of the students.

3. Involve more students in the process of instruction.

4. Obtain feedback on the students' progress.

Using questioning techniques has several advantages. The predominant strength is the willingness of the questioner to consider seriously his or her students by virtue of the assumption that students are not blank slates, but the repositories of enough knowledge and analytical ability to contribute to a dialogue on the concepts, issues, or phenomena under examination. Questions, in fact, encourage the possibility that students may even contribute new notions and issues for the class to examine. Questions provide practice in thinking and present the possibility of using newly acquired concepts to analyze and categorize the various elements of students' surroundings. Questions also help students translate knowledge into their own ways of thinking. Many cognitive psychologists, especially those who examine the acquisition of reading skills, stress the importance of the prior knowledge or "schemata" that students possess. These observers of the learning process claim that students are likely to make greater cognitive gains when the material presented can be easily subsumed under preexisting mental constructs (Anderson & Pearson, 1984). While helping students translate knowledge into their own mental constructs, as it were, the use of questions serves to motivate students to search for knowledge. In doing so, students often come face-to-face with the validity, or lack thereof, of their own ideas. Question-asking approaches to teaching, and the confusion that follows in the wake of the process, subject pupils' ideas to a vigorous examination which, if they take the question seriously, "will scatter their ideas like chaff or if they have any real substance, root them more strongly" (Wain, 1981, p. 251).

Although there is an enormous amount of positive discourse about the utility of questions, there exists a paucity of material for the teacher interested in incorporating questions into his or her teaching.

Much of the research findings on questioning skills are actually refined common sense. Clear questions, for example, are more productive than ambigous ones. If teachers wait after raising questions--giving students time to think and not rushing to answer their own questions--then the quality of students' answers is generally better than when teachers do not wait. Not surprisingly, educators refer to this phenomenon as "wait time." In the same vein, the research suggests that while teachers should acknowledge correct student answers, too much teacher enthusiasm is dysfunctional because it tends to embarrass the pupils and inhibit their future responses. Empirical research confirms further that it is important to train students not to shout out their answers to the teacher's questions, but to wait until they are called upon.

How Teachers Use Questions

The most important fact about teaching--the root fact necessary to penetrate to its essence--is that it is an intellectual enterprise. But because teaching is a dynamic occupation in which events unfold with lightning rapidity, teachers can seldom afford the luxury of reflection that characterizes most intellectual enterprises. Thus, they are unlikely to offer premeditated reasons for using the questions they do.

Since this unit seeks to develop skill in question-asking, we believe that some examination of the functions to which teachers put questions to use is in order. Teachers seem to use questions in the following four distinctive ways:

1. To ELICIT student responses. The questioner attempts to draw out of students information that they know, but which has remained unarticulated. It is as if pulling out the information--perhaps writing it on the chalkboard or on an overhead projector--will make the material more easily examinable. If information can be seen metaphorically as a light bulb, in these instances it is dull. It is shaded by the overwhelming amount of other information in the student's mind. Eliciting the student's ideas allows the bulb to shine more brightly and to offer greater illumination.

2. To ESTABLISH student responses. The purpose of this use of questioning is to impart new ideas. By providing a new conception, the questioner figuratively installs a light bulb into the student's thinking apparatus as means of illumination. In the light of this new knowledge, the student sees his or her preexisting ideas more clearly.

3. To EXPAND student responses. This use of questioning assumes that the student's responses need to expand in range, to illuminate a larger compass. No new knowledge is introduced; preexisting knowledge is simply intensified, and light is shed upon a greater area.

4. To EXTINGUISH student responses. While the previous functions have argued for greater, clearer and

more extensive illumination, the present use concerns the questioner's desire to extinguish what she or he justifiably believes are poorly formed or generally incorrect notions of the pupils. In these instances, the teacher seeks to turn off a light that distorts, perhaps with the desire to another in a different place or at a different angle.

Figure 1 on the following page illustrates the different uses of questioning.

Practice Activity

1. Label the following questions according to the categories that have been discussed.

a. What kind of evidence would convince you that the statement you just made is erroneous?

b. If students are required to attend school, what subjects do you think should be required?

c. Why do you think Mondale was defeated?

d. How would you feel if you were a white person in an all black society and someone said all white people are ignorant?

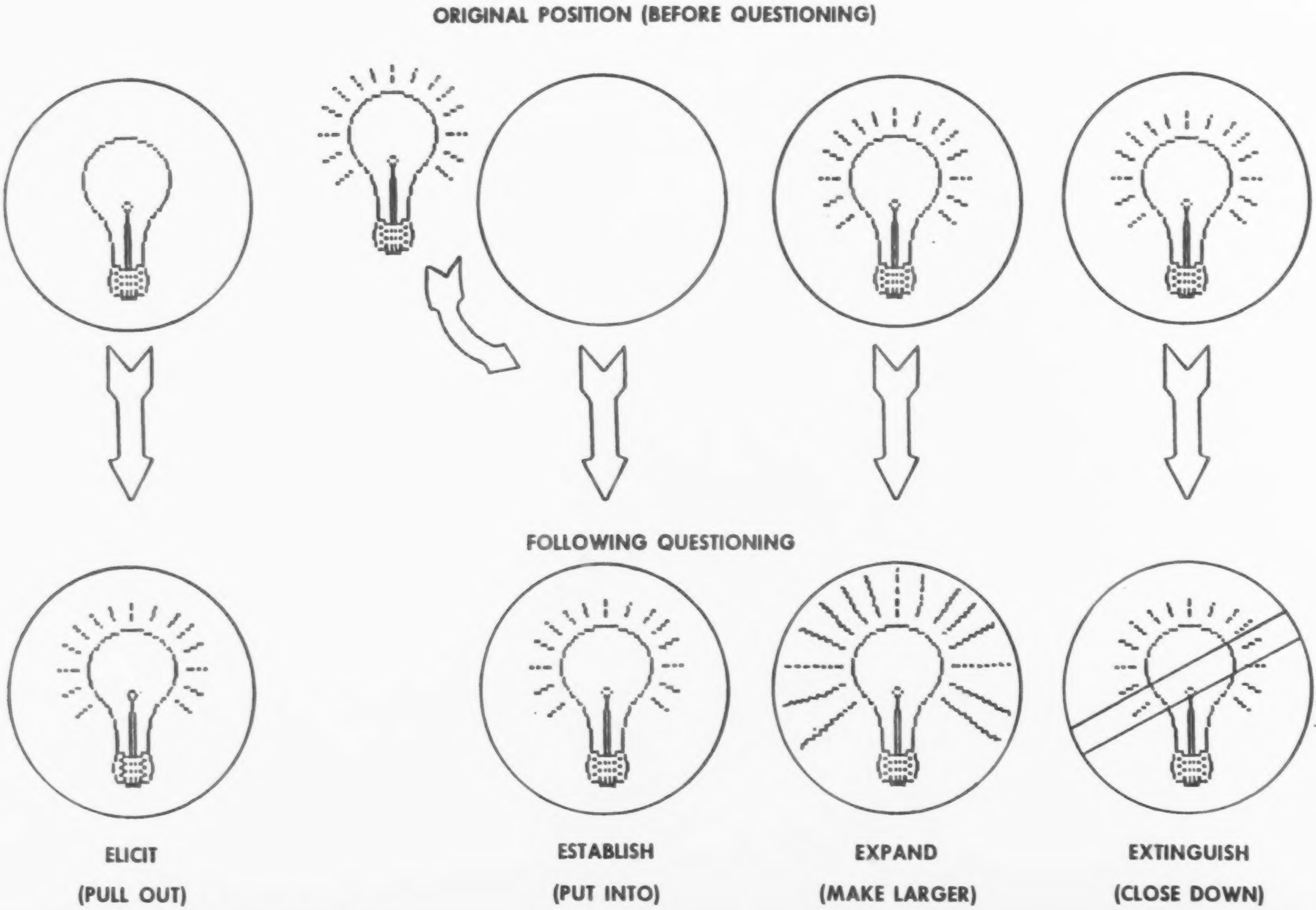
e. For what does Social Security pay?

f. If you were a newly freed slave in Alabama, what problems would you face?

g. Can you list the reasons why there seems to be no human life on other panets?

h. Why have Northern European immigrants been able to fit into American Society so quickly and successfully?

Figure 1. How Teachers Use Questions


ORIGINAL POSITION (BEFORE QUESTIONING)
FOLLOWING QUESTIONING
ELICIT
(PULL OUT)
ESTABLISH
(PUT INTO)
EXPAND
(MAKE LARGER)
EXTINGUISH
(CLOSE DOWN)

Responses to Practice Activity

a. Extinguish
b. Expand
c. Elicit
d. Extinguish
e. Elicit
f. Establish
g. Expand
h. Establish

Levels and Types of Questions

As every skilled teacher knows, there is a different type of question for every instructional goal. This section presents an array of question types from which you can make informed choices.

Although good questioning technique has been important to teachers at least since the time of Socrates, it wasn't until the mid-1950s--when a team of researchers led by Benjamin Bloom developed a taxonomy, or classification system, of educational objectives--that question-asking began to be organized systematically. Bloom and his colleagues devised a six-level scheme that classified educational objectives and made it possible to raise classroom questions appropriate to each of these six objectives (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956).

This system of hierarchically ordering thinking skills from lower to higher, popularly referred to as "Bloom's taxonomy," has been widely used both for formulating educational objectives and for guiding teachers in the formulation of questions.

Bloom's taxonomy is presented on the following pages. Table 1 lists the basic components of the taxonomy. In Box 1 we have included a brief explanation of each level as well as examples of questions that demand the thinking skills associated with each level.

Table 1
Basic Components of Bloom's Taxonomy

Questioning Category	**Bloom's Category**	**Student Activity**	**Typical Stem Words**
LOWER LEVEL	Knowledge	Remembering: facts, terms, definitions concepts, principles.	What? List, name, define, describe.
	Comprehension	Understanding the meaning of material.	Explain, interpret, summarize, give examples . . . , predict, translate.
	Application	Selecting a concept or	Compute, solve,
HIGHER LEVEL		skill and using it to solve a problem	apply, modify, construct.
	Analysis	Breaking material down into its parts and explaining the hierarchical relations.	How does . . . apply? Why does . . . work? How does . . . relate to . . .? What distinctions can be made about . . . and . . . ?
	Synthesis	Producing something original after having broken the material down into its component parts.	How does the data support . . .? How would you design an experiment which investigates . . . ? What predictions can you make based upon the data?
	Evaluation	Making a judgment based upon a pre-established set of criteria.	What judgments can you make about . . . ? Compare and contrast . . . criteria for . . . ?

Note: From Goodwin, 1981, p. 5.

Box 1
Question Classification According to Bloom's Taxonomy

Remembering and Understanding Information

I. *Knowledge:* remembering previously learned material.

- A. *Identifying Characteristics*
  1. Only recall or recognition of information from past experience is required.
  2. Little or possibly no understanding of the information is required.
  3. The learner is not asked to compare, relate, or make any inductive or deductive leap on his own.
- B. *Examples*
  1. Who is President of the United States?
  2. What is produced in the city of Richmond?
  3. When did the state of Virginia join the Union?
- C. *Verbs to Use in Question Formulation*

  repeat recite recall define record name list

II. *Comprehension:* understanding the meaning of remembered material, usually demonstrated by explaining in one's own words or citing examples.

- A. *Identifying Characteristics*
  1. The emphasis is on change in form.
  2. Some extension beyond what is given in the original may be required.
  3. Relationships are stressed.
  4. The learner looks for the denoted meaning of a communication.
- B. *Examples*
  1. What information can we obtain from this diagram?
  2. What concept does the cartoon illustrate?
  3. How does the Emancipation Proclamation relate to the attitudes of people in both the North and the South?
- C. *Verbs to Use in Question Formulation*

  restate recognize identify discuss explain describe

Using Knowledge

III. *Application:* using information in a new context to solve a problem, to answer a question, or to perform another task.

- A. *Identifying Characteristics*
  1. Deals with usable knowledge and emphasizes use of information or skill.
  2. The whole of ideas and skills are dealt with rather than just the parts.
  3. Contains a minimum of directions or instructions because the questions are based on previous learning and the student is expected to know what to do. He selects what information is appropriate for use in the new situation.
- B. *Examples*
  1. Draw a picture that shows how families interact in a different situation.
  2. How would our country be different if the flow of settlement would have been from west to east instead of east to west?

Box 1 (continued)

C. *Verbs to Use in Question Formulation*

employ dramatize interpret apply demonstrate illustrate

IV. *Analysis:* breaking a piece of material into its parts and explaining the relationship between the parts.

A. *Identifying Characteristics*
1. Student needs prior knowledge or rules and reasoning.
2. Question deals with both form and content.
3. Process begins by breaking a communication into constituent parts (premise, assumptions, hypothesis, supporting data, conclusions, etc.).

B. *Examples*
1. Why do these historical accounts differ?
2. Why did a city grow in this place?

C. *Verbs to Use in Question Formulation*

distinguish contrast debate analyze criticize
examine compare relate

V. *Synthesis:* putting parts together to form a new whole, pattern or structure.

A. *Identifying Characteristics*
1. Emphasis on creation of an original product (combining parts of past experience to create a new whole).
2. Involves divergent thinking and many possible answers.

B. *Examples*
1. After reading and discussing a problem about laws and rules, what kind of law would you make that would solve this problem?
2. On the basis of your study about the problems of a city, propose a solution to the transportation problem.

C. *Verbs to Use in Question Formulation*

compose formulate plan arrange create propose
design prepare

VI. *Evaluation:* using a set of criteria established by the student or specified by the instructor to arrive at a reasoned judgment.

A. *Identifying Characteristics*
1. Emphasis on judgment.
2. Only those evaluations that are or can be made with distinct criteria in mind are considered. It is not merely an opinion based on a snap decision.

B. *Examples*
1. Do you think the Eighteenth Amendment is a good law? Why? What criteria did you use to help you decide?
2. Assess the reasons given by the citizens for the Boston Tea Party. Were they valid or not? On what basis?

C. *Verbs to Use in Question Formulation*

judge evaluate assess appraise

Practice Activity

Now that you are acquainted with Bloom's taxonomy, we introduce an exercise to help you set the basic order of the scheme in your mind.

Reproduced in Box 2 (see next page) is a brief newspaper article written by a person who was interested in improving schools. Carefully read the editorial and then examine the series of questions that follow. After reading each question, identify the level of Bloom's taxonomy it represents.

1. Why are parents discouraged from positive involvement?

2. Speculate as to the identity of the person who wrote the editorial.

3. Restate, in one sentence, what the author thinks has happened to our schools in the last fifteen years.

4. Can you devise a strategy to increase parental involvement in the lives of their children?

5. Does the author present enough evidence to support what he or she said?

6. What kinds of children have American parents been sending our schools?

7. Why did the gap between parents and the school grow?

8. Prepare a brief response to the writer of the editorial.

9. How do you feel about the parents described in the selection?

Box 2
Sample Text

WHERE HAVE ALL THE PARENTS BEEN?

Sometime in the past 10 to 15 years parents have lost interest in what is taught and how it is taught. Many have come to regard the school as a babysitter, disciplinarian and trainer of social graces, but they don't bother to find out exactly how the surrogate is raising their children.

The parents send unrespectful, undisciplined children to school, anticipating that they will become intelligent, civilized adults after 13 years. But heaven help the teacher or counselor who calls the parent because their child is using drugs or has behavior problems. Then the school is at fault for failing the child. Then the indignant footsteps of the parent shake the walls of the administrative offices.

But where are these parents when a band-parent is needed? Why don't school concerts and plays overflow the auditoriums? Why aren't there hundreds of parents at PTA meetings, instead of handfuls?

It appears that parents have just been too busy fulfilling their own needs, be they financial or otherwise, to care much about the educational progress of their children.

This pursuit of fulfillment often interferes with adequate communication between the parent and child. It certainly prevents even minimun communication between parents and the school.

Schools, on the other hand, must not give the impression that parents' opinions and questions lack substance and validity. Teachers and superintendents sometimes are defensive when a parent does inquire about a curriculum or a method of study. This attitude discourages the parents from positive involvement.

Note: From *Minneapolis Star and Tribune*, Mon., Sept. 5, 1983.

10. Can the decline in parental involvement explain the increased adolescent retreat from school?

11. Tell why the reasoning in the following quotation from the article is sound or unsound: "This pursuit of fulfillment often interferes with adequate communication between parent and child. It certainly prevents even minimum communication between parents and the schools."

Responses to Practice Activity

1. Knowledge
2. Application
3. Comprehension
4. Synthesis
5. Evaluation
6. Knowledge
7. Analysis
8. Synthesis
9. Evaluation
10. Application
11. Analysis

Open and Closed Questions

Another way of categorizing questions is to refer to them as either open or closed. A closed question is one to which there are a limited number of answers, most of which are known by the instructor (Davies, 1981). There are two types of closed questions:

1. Questions that ask for confirmation or denial. These questions are answered with "yes" or "no."

- Can you boogie?
- Did you do the assignment?
- Do you know the four presidents on Mount Rushmore?

2. Questions which ask for a specific piece of information. These can be answered in most cases with a simple answer.

- What is the largest city in Western Washington?
- How long is a football field?
- Where is Karl Marx buried?

As is apparent from these examples, closed questions are somewhat limited in their usefulness. They tend to rely entirely upon recall and do not take discussions very far.

The other category of questions in this scheme is open questions. Open questions are more creative, less restrictive and give students more opportunity to give creative responses. In addition, they nudge students up to the higher levels of the cognitive ladder. Some examples of open classroom questions include

- How would the story have been different if Ted had been a strong dog able to pull George out of the surf?
- What would Chicago be like if it had't been situated on Lake Michigan?
- Under what conditions could world peace prevail?

In sum, closed questions serve to check students' comprehension and recall on a low level of comprehension. Open questions, on the other hand, encourage students to practice higher order skills such as synthesis and analysis. Both are necessary to the teacher's repertoire of questioning.

Strategies for Employing Questions in the Classroom

Just as there are many different types of questions, there are also many different ways of organizing questions for classroom use. In this section we will describe different formats which should be considred when you plan to use questioning as an instructional technique: (1) written questions, (2) small group questions, (3) individualized questions, (4) tutorial questions, (5) student questions, and (6) full class discussions.

Written Questions

Written questions are most frequently encountered in the form of study guides or as comprehension checks at the end of assigned reading. When using written questions for either one of these purposes, several considerations should be kept in mind. First, present the questions as a means to greater comprehension, rather than as an end in themselves. Too often students who are inundated with worksheets and study guides view the questions as "busy work" and not as the facilitators to understanding that they are really meant to be. One way to avoid this is to vary your mode of evaluation for answers to written questions. You might collect and grade them sometimes, use a simple check off system other times or ask students to read their responses to questions in class. In other words, avoid the tedium of assigning and grading questions after every reading. In this way, written questions can retain their purpose and vitality and not become drudgery.

A second major consideration in the use of written questions is to vary the levels of questions from lower to higher order cognitive skills as we discussed earlier. Written questions should not be used merely for recall. If most of your written questions start with "what", "where", "when", or "describe," you are limiting your students to the lower levels of cognitive skills. Use the range of the hierarchy, including speculative questions for which there is no single correct answer.

Finally, do not rely solely on the prepared questions that often accompany texts. While many of these questions are well constructed, they were not prepared with the specific instructional characteristics of your students in mind. We have come to believe that teacher-constructed materials are often significantly more effective than "ready-made" materials because they are truer to the aims of the class.

Small Group Discussions

To add variety to your teaching as well as to give your students the benefits inherent in cooperative learning settings, you might want to consider employing questions in a small group setting. Each group can receive the same set of written questions or a different aspect of the same general topic. The latter, for example, is an efficient way to cover several short chapters of a novel or an assigned text. Pick a recorder who will be responsible for writing out the group's responses and a reporter who will share these responses with the whole class. As the groups discuss the questions, circulate around the room to make certain that the students stay on task; after a designated period of time, reconvene the the entire class and have each reporter present the group's answers.

Individualized Questions

Individualized questions are designed to provide an in-depth account of a single student's attitudes, beliefs, or understanding. They are also generally intended to provide the student with increased self-awareness about a particular topic. If you have ever taken a rate-yourself quiz in a popular magazine, then you are already familiar with this particular questioning format. Individualized questions can also take the form of checklists or self-assessments. Box 3 shows an example of an individualized questionnaire for parents to complete about the alienation of their children. Box 4 provides directions for scoring the questionnaire (see next 2 pages).

Tutorial Questions

While individualized questions are directed at a single student in written form, tutorial questions are those questions asked by a teacher in a one to one interaction with a student to facilitate comprehension or help improve a particular skill. These individ-

Box 3
Sample Individualized Questionnaire: Alienation

1. My child is not much interested in the TV programs, movies or magazines that most people seem to like.
   Agree Disagree
2. My child thinks that a job is the most important thing in a person's life.
   Agree Disagree
3. More and more, my teenager feels helpless in the face of what is happening in the world today.
   Agree Disagree
4. My teenager likes to participate in school activities (sports, clubs, dances, etc.).
   Agree Disagree
5. My child thinks that most people know what to do with their lives.
   Agree Disagree
6. Sometimes my teenager acts as if she/he could just as easily live in another country or another time.
   Agree Disagree
7. My child believes that people will be honest with you as long as you are honest with them.
   Agree Disagree
8. My teenager usually tells his/her teachers what they really want to hear.
   Agree Disagree
9. For my child, school is most important as a place to make friends.
   Agree Disagree
10. My teenager believes that the problems of life are sometimes too big for her/him to handle.
    Agree Disagree

Box 4
Directions for Scoring Alienation Questionnaire

What does this test show about your child's level of alienation? To determine his/her alienation score follow these directions:

1. Give your self one point for agreeing with 1, 3, 6, 8, and 10.
2. Place this sub-total number of points in Square 1 on the "Score Card" below.
3. Give yourself one point for disagreeing with items 2, 4, 5, 7, and 9.
4. Place this sub-total number of points in Square 2 on the "Score Card" below.
5. Add the sub-totals, the numbers in Square 1 and Square 2, and place the sum in Square 3.

The score in Square 3 is your teenager's "alienation score."

SCORE CARD

Point System	Possible Score	Your Teenager's Score
You receive one point for agreeing with items 1, 3, 6, 8, 10.	5	*Square 1* ☐
You receive one point for disagreeing with items 2, 4, 5, 7, 9.	5	*Square 2* ☐
TOTAL	10	*Square 3* ☐

To interpret your teenager's score, see the alienation indicator below. Scores of 7-10 show high alienation; scores of 4-6 moderate alienation; and scores of 0-3 indicate low alienation.

What is your child's alienation score? Check his/her score on the Alienation Indicator.

ALIENATION INDICATOR

10 9 8 7	H I G H
6 5 4	MODERATE
3 2 1	L O W

What is the result of the inventory you took? How do you feel about your child's score? Does it surprise you? What does it mean if your child scored fairly high on the inventory? Should you worry about his/her alienation?

ualized encounters should be as carefully planned as a full class discussion. Formulate specific objectives for the session and write out several questions and follow-up probes. You might want to keep a record of your questions and the students' responses as a way of keeping track of his or her progress.

Student Questions

The value of student-generated questions is all too often overlooked in lesson planning. With some guidance, students can learn to formulate meaningful questions that are often closer to the class's level of understanding than those of a teacher. Student questions can be used to open discussions, to clarify misunderstandings, or to review. Rather than simply asking if there are any questions, have students jot down questions and then ask them to read them or exchange them. Another effective technique following an assigned reading or a lecture is to have students bring in two questions, one to which they know the answer, the other for which they have no answer. Learning is, after all, an interactive process. Students should be encourged to question as much as the teacher does.

Full Class Discussions

Leading an effective discussion with an entire class is one of the most difficult skills a teacher must master. Because it is such a complex and important task, we have created a step-by-step strategy in the following section to help you plan and implement class discussions. While most of the considerations have been written with the full-class discussion in mind, you will also find them useful for the other questioning formulas that have been discussed.

Guide to Successful Class Discussion

The most common reason people fail to respond to questions is that they do not understand the question. Generally, the questions are vague, tricky, elliptical, loaded, poorly phrased or uninteresting to the potential respondent. Some reasons why questions misfire are illustrated by the follow anecdote from

Fraenkel (1973):

> Max Lerner once described his passing the front of a small pawn shop whence a sign in the window asked: "If you're so smart why aren't you rich?" Admittedly fascinated by the sign, he returned to it again and again. "I couldn't answer the question," he remarked, "and what's more, I didn't know why I couldn't! Then it came to me. It was the wrong question!" (p. 179)

Practice Activity

Let us provide some illustrations of how poorly constructed questions can confuse us. Your task is to examine the questions and determine why the questions confuse you or are difficult to answer. Then attempt to rephrase each question, making it more interpretable. Good luck!

1. How, when, where, and why did the War of Independence begin?

2. How long do you think man has been on earth?*

3. Isn't it true that abortion laws should be liberalized?

4. Why did boiling the water without the balloon and placing the flask in a cool place make the air pressure in the flask different from the pressure of the first experiement?*

(Note: *From Weigand, 1971)

Designing Appropriate Questions

Poorly formed questions confuse the intended audience and make answering nearly impossible. A teacher's task then is to present questions to their pupils in the clearest fashion possible.

Become Familiar with the Material

Good question askers are very familiar with the subject under discussion. If it is written material, they have carefully read it, forming initial impressions, spotting confusion, locating words and sentences that are likely to confuse their students. The material under scrutiny, then, has become a part of the intellectual property of the question asker, acquired through discipline and careful reading. If the focus of the discussion is not textual material, the teacher nonetheless has to prepare him/herself similarly by carefully examining the material, searching through other sources of information on the subject, and in general absorbing the material in greater depth and breadth than any possible audience.

Formulate Your Objectives

In Rabbit Run, John Updike's protagonist is told by a service station attendant that "the only way to get somewhere, you know, is to figure out where you are going before you go there" (1960, p. 27). This is sage advice for teachers interested in developing a sound question-asking strategy.

Properly conducted, the process of questionsing is similar to that of planning a journey in which the well-prepared traveler is advised to ask three questions before proceeding: Where am I going? How will I get there? How will I know that I have arrived?

Carefully devised objectives make it possible to ask questions of the appropriate level and type, and to know when you have arrived at your destination. The teacher without an appropriate objective risks either crashing his questioning strategy into some barrier or swerving off the road. Simply put, teachers must avoid questioning students beyond the answer they desire and should anticipate the answers they want before asking their questions.

Anticipation is especially important in questioning. In many ways maintaining one's head during a questioning sequence is nearly as difficult as hitting a fastball. But in an important way it is different. There is seldom an opportunity for questioning practice, and a person nearly always ventures into the classroom unrehearsed. Therefore, the only reliable method of successful questioning is to have a carefully formulated objective.

Develop a Strategy for Question Construction

While it is true that a good discussion depends to a great extent on one's ability to react spontaneously to the often unpredictable responses of the students, it is equally important to prepare questions in advance. One possible strategy is to think of the discussion as having distinct sections, each with a particular purpose. This can prevent a discussion from becoming mired in redundancy.

All question-asking scripts should begin at the same place. Before it is possible to raise discussion questions about a subject, the "5 W's and H" questions must be answered. The "5 W's" are "Who?" "What?" "Where?" "When?" and sometimes "Why?" "H" is "How?" If we raise questions of this sort first, then all members of the audience will begin the discussion with a clear map outlining the lay of the land. (This tactic serves to eliminate much of the confusion that charcterizes many question-asking situations.)

After these questions have been answered, it is possible to move to the more substantive aspects of question asking. Box 5 shows an example of such a strategy, designed for a discussion of a poem or a short piece of fiction (see next page).

Handle Effectively All Ranges of Student Responses

When a teacher asks a question, several things can occur: Students can respond correctly, give an incorrect response, ask a question or give no response. The folling are techniques to deal with each type of occurrence.

Correct Responses. It is critical that a teacher employ a variety of positive reinforcement when a student offers a correct response, in order to encourage future participation. Reinforcement can be provided

Box 5
Sample Strategy for Planning Questions for a Teacher-led Discussion of Literature

I. *Skimming the surface*
Initial impressions, confusions; attempts to find out what's going on, who's involved, where they are, etc.

II. *Checking the form*
Divisions in the work; opening, closing; unusual style.

III. *Getting inside*

- A. *The work itself*
  Words, images, contrasts, repetitions, patterns, connections, figurative language.
- B. *The reader*
  Feelings, understanding, confusion, identification.

IV. *Moving beyond*

- A. *Abstraction:* theme(s)
  What was the writer trying to communicate about life?
- B. *Abstraction:* application to own life
  What does this work lead me to question about myself? My world? My life?

V. *Looking back*
What was the writer trying to do with this work? Did he/she succeed? What was the best line? The best part? The best image? Why? What could have made the work better? Why? How does it compare with/contrast with/stack up against other works you've read?

nonverbally through smiling, nodding, winking, moving toward the student, and so forth, or it may be provided verbally by praise or by testing the student's answer. Having students clarify or elaborate their responses is also a positive way of recognizing what they've already said and encouraging them to go farther. The following are examples of this treatment of student responses:

> "What you've said is fine, but can you further develop your ideas?"
>
> "Can you provide an example of that concept?"

Incorrect Responses. Incorrect answers require diplomatic handling because the teacher must respond to the student and appear accepting of all attempts to answer while at the same time redirect thinking toward the correct answer. After an incorrect response has been given, the teacher can try to reword the question to make it clearer, provide some information to help students come up with an answer or break the question down into more manageable parts, (Goodwin, Sharpe, Cloutier, & Diamond, 1982). In addition to these techniques, adjusting or refocusing a student's incorrect response can also be employed to get the discussion back on track.

It is important to keep in mind that an instructor's reaction to incorrect responses may influence future participation. Teachers should never respond to incorrect answers by using the following:

1. Sarcasm. Most children cannot fully appreciate the substance and feel only the barbs.

2. Reprimand. (e.g., "Write the correct answer one hundred times.") The negative carry-over to the subject matter being studied can be quite damaging.

3. Personal attack. (e.g., "Boy, are you stupid!") Children tend to function on the level the teacher sets for them.

4. Accusation. (e.g., "You didn't study that, did you?") You may be inaccurate in your accusation.

5. No response at all. At least say, "I enjoyed your thinking," or something similarly positive. Not responding to a student's answer is not only rude, it has a negative connotation. It also tends to make the student feel as if his contribution is worthless (West, 1981).

Student Questions. Only when students feel free to ask questions can real learning take place. Teachers can encourage the frequency of student questions by listening carefully to the questions and responding nonjudgmentally to them. Rather than immediately answering the question yourself, help the student answer his or her own question through prompting or breaking down the question, or redirect the question to the class. If a student's question is off the topic or applies only to him/herself, ask the student to stop before or after class to discuss it. Only as a last resort or when time is of the essence, answer the question yourself (Goodwin, 1982).

If you cannot answer a student's question, be honest and say so. Never fake an answer. Encourage the class to try answering the question or work together to obtain the answer.

No Response. Creating a classroom climate that is accepting of student responses is perhaps the most critical factor in dealing with a lack of student response to teacher questions. We hope the suggestions outlined above will help you do just that. Even the most skillful of teachers, however, are sometimes faced with an sea of apathetic faces that offer no response.

Having students jot down their answers facilitates responses because it makes students more accountable than does a simple request for an oral response. The teacher could then collect and read a range of responses or students could read each other's response.

From time to time, a graded discussion might spur participation. Students can be given a specific number of points for appropriate responses.

On the whole, however, establishing a risk-free environment and asking questions that are interesting and not beyond the students' ken are the best ways to prevent the problem of no response.

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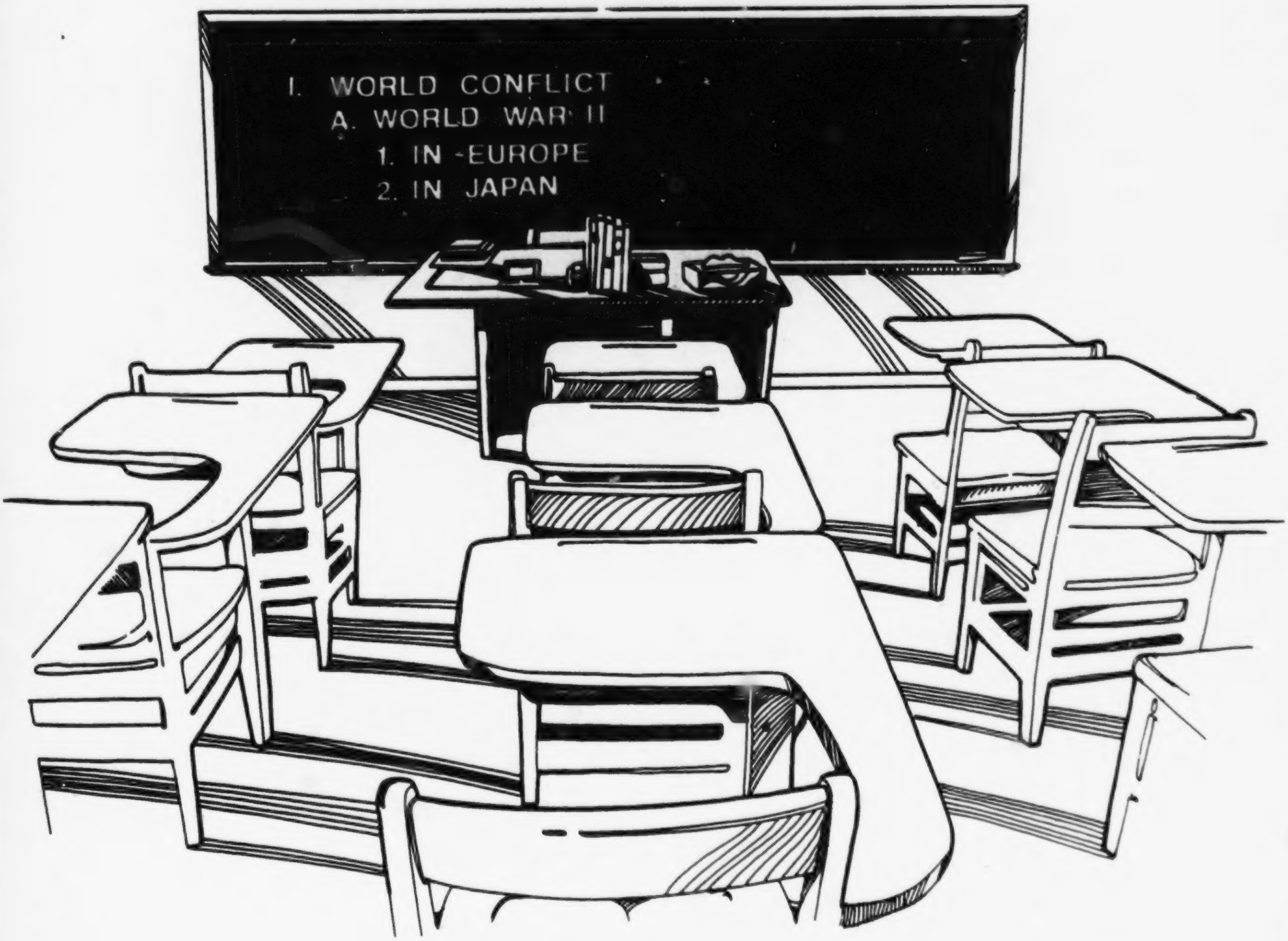
CLARITY OF STRUCTURE


I. WORLD CONFLICT
A. WORLD WAR II
1. IN EUROPE
2. IN JAPAN

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DEFINITION OF COMPETENCY

The competent teacher knows that learning is facilitated if the lesson is presented in a clear, systematic sequence consistent with the objectives of instruction. Learning is a conscious activity of the learner which proceeds (according to research in human learning) most efficiently when the learner is aware of the relationship of each part of the activity to the other parts and to the whole.

PURPOSE

The purpose of this chapter is twofold: to acquaint you with the research literature related to the clarity of the structure of a lesson; and to assist you in performing a number of activities typically associated with structuring the presentation of a lesson so that it can be followed by your students.

Specifically, this chapter will address four approaches that can be used in clarifying the structure of your lesson:

1. preparing outlines, reviews, and summaries;

2. beginning the lesson or unit with an overview that relates the new material to the more general subject under study and to previously learned material;

3. making interrelationships among parts of the lesson clear to learners; and

4. using reviews and summaries to aid retention.

You will be asked to complete a number of activities designed to provide practice in these four skills.

Developing the structure of a unit or lesson is obviously related to the more general area of instructional planning. However, planning activities not directly related to the structure of presentation are addressed in the chapter on PLANNING. MEANINGFULNESS, which is discussed in detail in another chapter, will be referred to here only as it relates to presenting the framework of a lesson.

BACKGROUND KNOWLEDGE

Students learn best when the structure of a presentation is clear to them. The teacher who knows this states objectives and gives overviews, alerts learners to important points, and summarizes frequently. Such strategies seek to increase learning and retention of subject matter by illustrating relationships between new information and information already familiar to students. Like most of the successful techniques that you have begun to include in your teaching repertoire, they work best with planning and with a knowledge of your students.

No doubt, in your undergraduate courses in education you spent much time and energy learning about effective teaching methods. It is likely that your professors stressed the importance of organizing and structuring your lessons. According to Brophy and Good (in press):

> Achievement is maximized when teachers not only actively present material, but structure it by: beginning with overviews, advance organizers, or review of objectives; outlining the content and signaling transitions between lesson parts; calling attention to main ideas; summarizing subparts of the lesson as it proceeds; and reviewing main ideas at the end. (p. 106)

Brophy and Good explained how such structuring is consistent with the goals of effective teaching. "Taken together, these structuring elements not only facilitate memory for the information but allow for its apprehension as an integrated whole with recognition of the relationships between parts" (p. 107).

Most of us would probably agree that structure is important to any classroom activity. We can understand why it is necessry for us, as teachers, to have a clear idea of what we want our students to learn and how we can help them learn it. Lesson planning helps us clarify our objectives and strategies for ourselves (and for our supervisors!). But what about our students? How well do they understand the direction in which they are headed? And how well can they gauge their understanding of material as it is presented?

It is likely that as students we have all had the unfortunate experience of sitting through a class, assuming we were the only ones in the class who did not understand the lecture, or even if we understood the lecture, having no idea why it was important or how it fit into the course as a whole. Somehow, the teacher had failed to clue us as to the material's relevance to understanding the particular discipline. Perhaps three lectures later, the relevance became apparent, but we had already forgotten the content of the lecture (and being good discriminators between relevant and irrelevant verbiage, we failed to take notes at the time!). Not having a map, a structure, a direction, left us at a loss for organizing our own thinking as we sat through the class, passively confused.

To illustrate the flip side of such an experience, I once had the opportunity to work as a teaching assistant for a psychology professor who seemed to have grasped the importance of making his students aware of the structure of the material (as he had developed it). He taught a course in introductory psychology in a continuing education program to a large group of students with a wide range of academic and personal backgrounds (heterogeneous grouping carried to an extreme!). Prior to each class, he wrote an outline on the board that alerted students to the content of the presentation and illustrated relationships among the concepts to be presented. As he lectured, he occasionally referred to his outline, usually to show how examples or issues raised by the students fit into the overall scheme. While he didn't always manage his time so as to present a nicely prepared summary of the evening's lecture, he usually referred back to his outline to show the class where they were and where they would be headed in their reading and in the next class. If questioned, that professor might say that the outline was really designed to keep him focused and on-task, but that certainly did not prevent his students from benefiting by being able to anticipate the content and to begin to see how the bits of information presented were related.

So, what we are really talking about is how to give our students access to our thinking--our outlines, our objectives-- that is, to the structure we have developed for our teaching and, consequently, for their learning. Although lesson planning and preparing help us organize our thinking and our teaching, making that plan more "public" may help our students better organize their own thinking and learning.

How might you take what I've discussed here and apply it? The remainder of this chapter is designed to demonstrate just that--to discuss some practical applications of structuring and to give you an opportunity to experiment with the suggested stategies.

As I suggested above, structuring can take place at the beginning, during, and at the close of a lesson. For our purposes, I will suggest how the various strategies can be used at each stage. Where appropriate, I will illustrate how a strategy can be used in more than one way. It should be understood that all of the strategies discussed require some prior preparation by the teacher.

Structuring Strategies

Hartley and Davis (1976) cited three advantages to using "preinstructional strategies" in establishing the structure of a lesson. They note that a well-organized "bird's eye-view" of the task

1. supplies the student with a useful perspective of what lies ahead,

2. serves as a framework on which subsequent learning can be arranged and related, and

3. provides means of enhancing motivation and perseverance.

It would be difficult for any teacher to pass up the opportunity to employ teaching strategies that promise to accomplish such goals.

Preinstructional strategies include advance organizers, overviews, outlines, and reviews. Regardless of the technique, the intent is to set the stage for instruction by providing a purpose and direction. As Dewey (1964) notes,

> It is part of the educator's responsibility to see equally to two things: first, that the problem grows out of the conditions of the experience being had in the present, and that it is within the range of the capacity of students; and secondly, that it is such that it arouses in the learner an active quest for information and for production of new ideas. (p. 378)

Advance Organizers

A method for introducing academic material that has received a great deal of attention is the "Advance Organizer Model" developed by David Ausubel. This method is based on Ausubel's theory of meaningful verbal learning, which addresses how knowledge is organized, how the mind processes information, and how teachers present new material to students. His theory of learning is unusual in that it translates directly to teaching methodology. Ausubel believed that each student carries a cognitive structure of a particular subject matter. He described the cognitive structure as "the substantive content of the learner's knowledge in a particular subject-matter area or sub-area at any given time, and its organization, stability, and clarity" (1967, p. 21).

Cognitive-developmental psychology has stressed the importance of the role of cognitive structures in learning new information (Bruner, 1966; Charlesworth, 1969; Flavell, 1977; Keil, 1984; Piaget, 1967). The child is actively involved in using his or her existing cognitive structures to assimilate new material whether it is presented formally or occurs naturally in the environment.

Frank Smith (1975) also supported Ausubel's ideas about students' needs to organize the information they possess. He, too, used the term "cognitive structure" because it implies knowledge that is organized rather than a simple collection of unrelated facts and figures. In support of the importance of the cognitive structure, Smith declared, "What makes the difference between good and poor learners at school may be less the sheer amount of knowledge they possess than the degree to which they have it integrated and available for use" (p. 11).

In order to make new information meaningful, and more easily learned and retained, the teacher must assist students in their active attempts to link it to their existing cognitive structures. Trying to do that for thirty different students (and thirty different cognitive structures!) would be an impossible task. So, our job is to strengthen the existing cognitive structures, so that our students are ready to absorb new information in a meaningful way. Ausubel (1967) likened the cognitive structure to a "mental scaffolding," the framework for integrating new information with existing knowledge, so that it can be more easily understood.

Ausubel's advance organizers are intended to provide broad conceptual frameworks that will help clarify the content to be presented. These frameworks serve as the context for understanding new information. The organizer is developed at a higher level of abstraction, generality, and inclusiveness than the actual subject matter. Thus, the details and specific ideas presented in the lesson become subsumed under the broader structure of the discipline as provided by the organizer.

Ausubel (1967) described two general types of advance organizers--expository and comparative. Expository organizers are used when new material is completely unfamiliar. Ausubel recommended presenting the organizer in terms already familiar to the learner. Joyce and Weil (1980) cited the Anthropology Curriculum Project of the University of Georgia (Clauson & Rice, 1972) as a curriculum based on Ausubel's meaningful verbal learning theory. Prior to a unit addressing acculturation in Kenya, which will probably be an unfamiliar topic for students, the following written expository organizer is presented:

> Acculturation takes place when the people of one culture acquire the traits of another culture as a result of contact over a long period of time. The British governed Kenya for about 80 years. During this period, the direction of cultural change was largely one way.

This short, broad, conceptual scaffolding sets the stage, in this particular example, for the written material which follows it. The specific details contained in the learning material can be fitted to this conceptual framework of acculturation. You can see that the description of acculturation here could be used (with only minor modifications) before reading about other cultures as well, provided that the overriding concept of acculturation remains the focus.

The comparative organizer is the second type of advance organizer described by Ausubel. According to Joyce and Weil (1980), the comparative organizer is designed to integrate new concepts with similar concepts that are already present in the cognitive structures of the students yet also to discriminate between the old and new concepts in order. The example in Box 1 below might be used during the same acculturation unit.

Box 1
Example of Comparative Organizer:
Changes Resulting from Acculturation

Cultural Universal	African Trait	European Trait
Social organization	Tribe and smaller kin groups	National government
Family	Extended; husband has more than one wife	Nuclear; husband has only one wife
Work	For self or in exchange for work	Day laborers for wages

Note: Adapted from Clauson & Rice, 1972; cited in Joyce & Weil, 1980.

In developing the advance organizer, Ausubel relied primarily on a continuous prose passage, as presented earlier in the example involving acculturation in Kenya. Most of the research has also focused on this method. However, some authors (e.g., Earle, 1969; Santeusanio, 1983) have complained that Ausebel's strategy is difficult to implement in the classroom. This, however, has not prevented teachers and researchers from applying Ausubel's notion of strengthening students' existing cognitive structures by using modifications of the advance organizer or adapting the advance organizer for students with varying abilities. A few variations will be described here.

Steinbrink (1970/1971) reported the effective use of advance organizers in teaching geography to rural black disadvantaged elementary students. He presented a conceptual advance organizer preceding the unit and daily advance organizers throughout the six-week instructional period. Jerrolds (1967) focused on memory for specific facts in constructing a modified advance organizer for use with ninth graders. His modifications were constructed around main ideas and concepts and were used only with average to above-average readers with average to above-average intelligence. Neisworth (1967/1968) constructed written advance organizers for use with educable mentally retarded adolescents who were studying about accidental poisoning.

The examples given above were selected not because they describe statistically significant research, but because they illustrate attempts to apply Ausubel's ideas in classroom settings. The teachers and researchers involved considered their specific students, subject matter, and teaching objectives in developing strategies designed to help students relate what they already knew to what they needed to learn. Lawton and Wanska (1977), in their review of the relevant research, suggested that the learners' age, expected competency, and naivete regarding subject-matter and/or "process" concepts should determine the type of advance organizer to use and the number of concrete props needed to exemplify subject conceptual process concepts and strategies. With their suggestions in mind, it is now time for you to try your hand at constructing an advance organizer.

Practice Activity

For the purposes of this assignment, you are to imagine yourself to be a high school social studies teacher. You are teaching a year-long psychology/sociology course to eleventh and twelfth graders of average to above-average academic ability, some of whom expect to attend college. You are preparing a psychology unit on "personality." You are planning to use a secondary level psychology text, filmstrips, lectures, and class discussions. You are also planning to assign students to observe at least two people and compare their personalities.

Your assignment is to construct an advance organizer to use in introducing this new unit to your class. You are fairly certain that the topic of personality has not been discussed formally in any other courses at your high school.

Although you do not have access to the actual instructional materials, you can probably recall your own introductory psychology course (with any luck your professor made use of structuring strategies that aided your recall). Think of your reasons (besides department policy) for teaching your students about personality. What information and concepts do you want them to understand when they complete this portion of the course? Keep in mind Ausubel's description of the advance organizer as brief, presenting general concepts, and constructed at a higher level of abstraction than the actual material (this does not mean that it should be more difficult to understand, however).

Ready? Propose an advanced organizer for a unit on personality. When you have finished, read the sample advance organizer in Box 2 on the following page.

Box 2
Example of Advanced Organizer for Unit on Personality

At one time or another you and a friend probably got together and discussed other friends. No doubt you identified those who "have a good personality," those who "have a bad personality," and some who simply "don't seem to have any personality at all." Such discussions make you realize that people behave in different ways. Each person in each category (good, bad, no personality) has his or her own unique personality. Do you know anybody who is exactly like you? Probably not. We all prefer different foods, types of entertainment, and school subjects.

Once you know people, you begin to see that while they have unique personalities, they are also consistent in the way they act. When you go to a party with friends, you probably can predict how each one will act. You come to expect these friends to behave in ways that are consistent with your past observations of them.

Note: Adapted from Santeusanio, 1983.

Perhaps you constructed a written organizer similar to the sample in Box 2. Or maybe yours is more content-specific. Or perhaps you developed a vignette or role-play that touched upon similar concepts. Or it is possible that you organized your class into triads to discuss the elements of "good" and "bad" personality and used their ideas to make a general introduction to the class. How you approached this assignment depends in part on your teaching style, your beliefs about how children learn, and the particular class you envisioned. Regardless of the specific details of your strategy, to be effective your advance organizer should be tuned to address the age, competency, concept familiarity, and subject familiarity of your students. Remember, you are building on their existing "cognitive structure."

Now that you have strengthened your own cognitive structure for structuring strategies, we will move on to discuss the "structured overview."

Structured Overviews

Another strategy that is meant to relate unfamiliar material to previously learned concepts and to provide a framework for organizing information is the structured overview. It has been described as a "visual and verbal representation of the key vocabulary of a learning task in relation to a more inclusive or subsuming vocabulary or concepts that have previously been learned by the student" (Estes, Mills, & Baron, 1969, p. 41). The key vocabulary of a particular unit of reading or instruction is arranged, either by the teacher or by the students, to show the relationships of the terms to each other and to the structure of the subject (Earle, 1969). Thus, the emphasis is on using important vocabulary as a means to introduce students to new subject matter. Baron and Earle, two of the primary developers of this technique, described two purposes of the structured overview: (a) to clarify the teacher's instructional objectives and (b) to provide students with a framework for organizing information meaningfully (Baron & Earle, 1973). You may recognize both of these aims from our earlier discussion of the importance and goals of structuring instruction--for ourselves, as teachers, as well as for our students.

Figure 1 (see next page) is an example of a structured overview that was developed for a social studies unit on foreign affairs and Eastern Europe. You may wish to refer to it as you read through the following instructions for constructing and using a structured overview. It will be clear that this technique, like the advance organizer, requires preparation time.

Steps in constructing a structured overview.

1. Analyze the vocabulary of the unit or chapter you intend to present. Select and list every word that you believe is necessary for the students to understand the major concepts.

2. Take your word list and arrange and rearrange the words until you have a diagram (a "schema") that shows the interrelationships among the ideas particular to that unit.

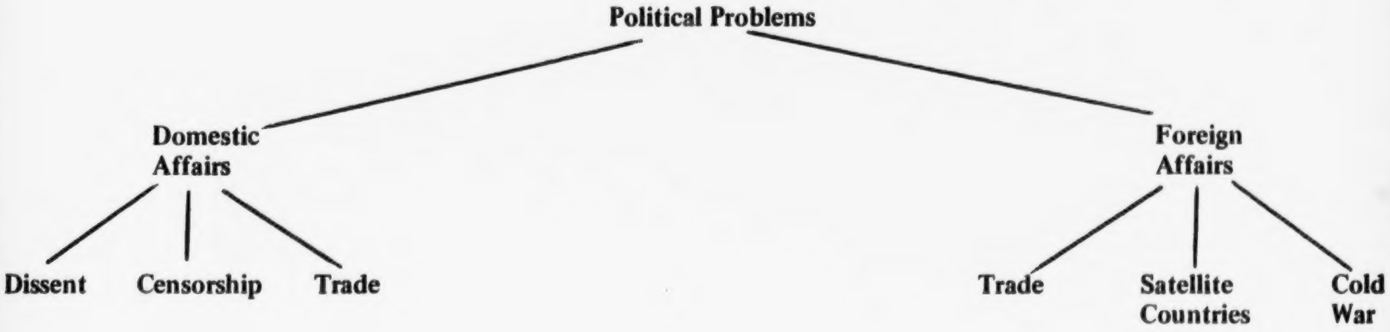
3. In order to depict relationships between this unit and the discipline as a whole, add to that diagram any vocabulary concepts (general and/or specific) that you believe are already understood by the students.

4. Evaluate your overview. Have you clearly depicted the major relationships? Can the overview be simplified and still effectively communicate the relationships you consider to be most important?

5. On the first day of the unit, draw the diagram on the chalkboard (or use an overhead projector). While doing this, explain briefly why you arranged the terms as you did. Encourage the students to contribute as much information as they can.

6. During the unit, relate new information to the structured overview as it seems appropriate. It may be useful to sketch portions of it on the chalkboard (or to keep the overhead projector available). The object here is to aid the students in their attempts to organize the information in a

Figure 1
Sample Structured Overview


Political Problems
Domestic Affairs
Foreign Affairs
Dissent
Censorship
Trade
Trade
Satellite Countries
Cold War

Note: Adapted from Robinson, 1978, p. 81.

meaningful way. (Note Adapted from Barron & Earle, 1973; Earle, 1969; Robinson, 1978).

Now that you have the instructions and an example, it is time once again to try your hand at application.

Practice Activities

As you work through these exercises refer back to the directions presented above.

1. Assume you are an elementary teacher, introducing the topic of vertebrate animals (at a later date you will introduce invertebrates) in your science class. Let us work through each step together.

a. Select the vocabulary you want to use to introduce the unit on vertebrates such as:

animals
vertebrates
invertebrates
spinal column
mammals
birds

For our purposes we have used a fairly short list. You will notice that not all of the terms would be considered "technical vocabulary." Some are common to the speaking vocabularies of most of your students; however, they are still important to the subject matter you want your students to understand.

b. Arrange (and rearrange) the words to show the relevant relationships (writing the individual terms on index cards or slips of paper can really make your task much easier!).

The terms used here seem to fall rather neatly (and conveniently) into hierarchical relationships, such as those illustrated in Figure 2 on the following page.

Figure 2
Constructing a Structured Overview:
Sample, Step 2

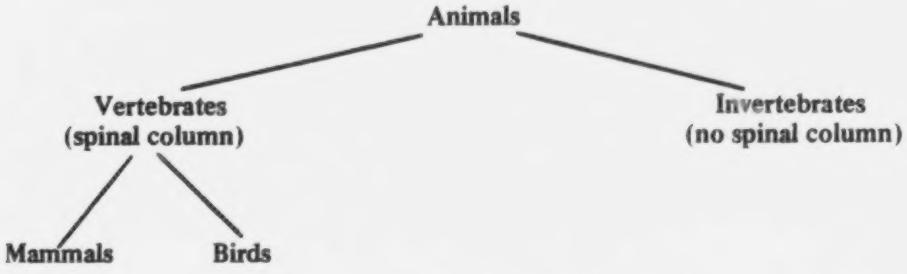
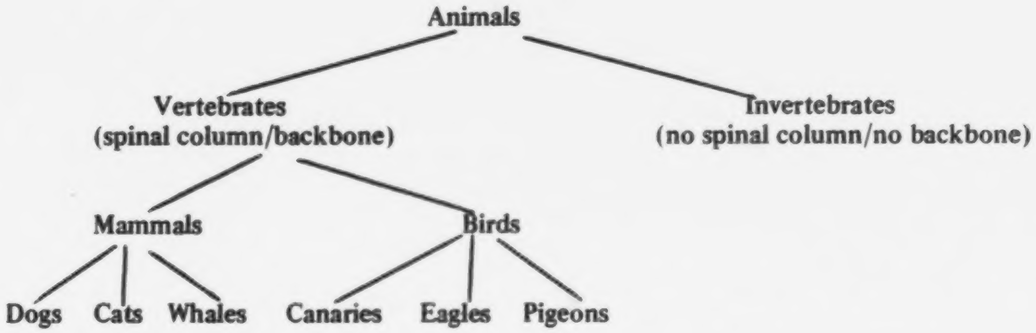

Animals
Vertebrates
(spinal column)
Invertebrates
(no spinal column)
Mammals
Birds

Figure 3
Constructing a Structured Overview:
Sample, Step 3


Animals
Vertebrates
(spinal column/backbone)
Invertebrates
(no spinal column/no backbone)
Mammals
Birds
Dogs
Cats
Whales
Canaries
Eagles
Pigeons

Note: Adapted from Smith, 1975.

You began with the very general class of "animals" and broke that down into two subcategories and then divided "vertebrates" further into "mammals" and "birds."

Because you will be discussing invertebrates at a later date, you include it here only to show the contrast. But you can build on this overview when you add that new information.

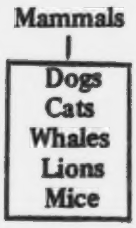
c. Add additional terms already understood by your students (concepts already in their cognitive structures) that will help them understand the new terms such as:

backbone
dogs
cats
whales
canaries
eagles
pigeons

Our new structured overview might look like Figure 3. We have added some familiar examples to help students understand and remember some unfamiliar terms. Each lower level of the "tree" is an example of the higher levels to which it is connected. The levels should be as simple or as complex as is appropriate for the particular subject matter and students being taught.

d. Evaluate and simplify if necessary. We may want to delete either "spinal column" or "backbone," depending upon the knowledge of the students. Or we may want to arrange a longer list of animal examples into a column with a box drawn around it to show that they can be considered as a unit, as shown in Figure 4.

Figure 4
Constructing a Structured Overview:
Sample, Step 4



e. Present the overview to the class. You might draw the entire diagram on the board and then take students through each concept, explaining why terms are placed in particular locations. Or you might draw one level at a time, asking students to contribute their knowledge about what might be included on the next level. You can then incorporate their information into your predetermined structure, as appropriate. The important thing is that students understand why you arranged the terms as you did (even if it was as a circle or a hexagon!).

f. Use the overview during the course of the instructional unit. For the example given, this will be especially helpful when you move on to study invertebrates.

Now that you have some understanding about how to develop a structured overview, the next activity will give you an opportunity to "play" student. Once your students are familiar with the rationale of the structured overview, you can try this approach with them. As the teacher, you will select pertinent vocabulary and ask your students to construct the overview. So, let's try it!

2. You are a high school mathematics teacher about to begin a unit on "rational numbers." From the students' text, you have selected the following

technical vocabulary, representing the important concepts of the unit:

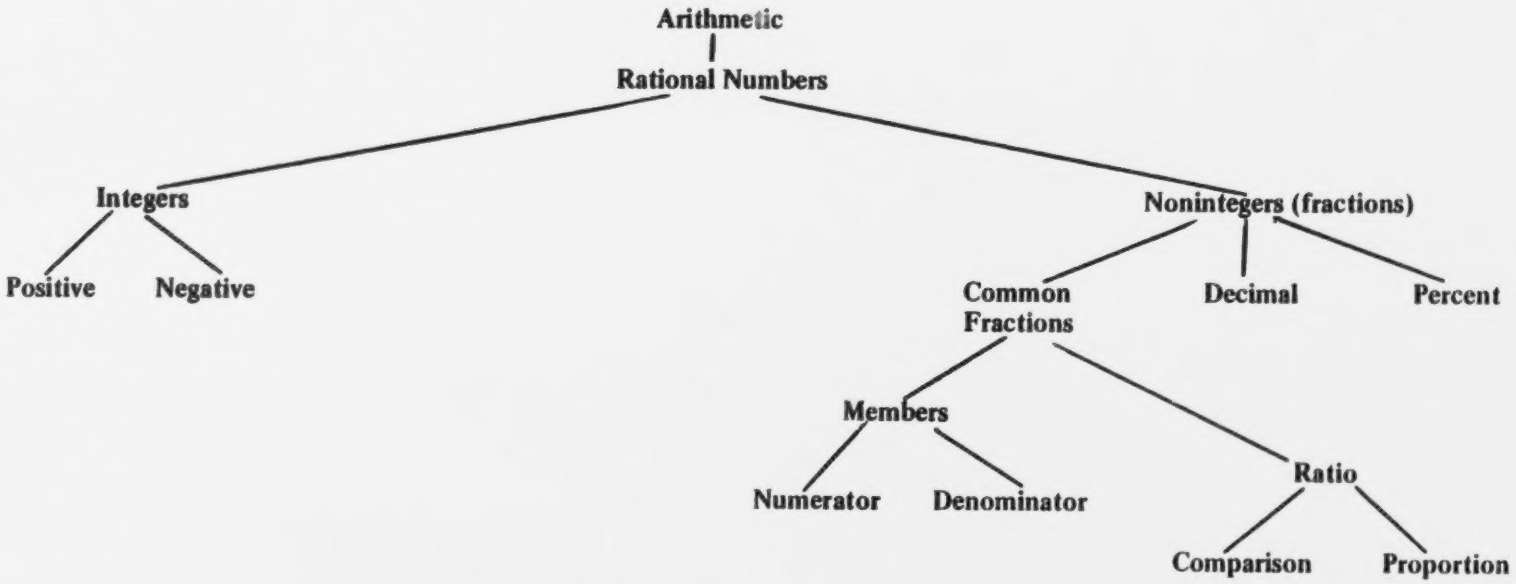
arithmetic
rational numbers
fractions
integers
nonintegers
positive
negative
common fractions
decimal
percent
members
numerator
denominator
ratio
comparison
proportion

Quite a lengthy list! I recommend writing each term on a separate card or slip of paper and arranging and rearranging them until the array makes sense to you, that is, you could explain it if called upon. Add any terms that you think would help your students understand the important relationships. When you finish, imagine yourself developing your class lessons from the diagram. Reposition any terms that cause a block in the flow of your presentation. Figure 5 on the following page illustrates one possible arrangement of the terms.

Compare the example in Figure 5 to your own. There were likely some similarities in the organizations, but perhaps you developed a different arrangement. Examine _your_ example. How might you change it if you wanted to focus on integers? decimals? ratios? Just as your arrangement may have differed from that presented, your students' versions may differ from yours as well as from each other's. The test of the usefulness of the structure will be in your ability to present it so that your students understand and remember the content that follows it.

3. Select a unit or chapter that you will be starting in the coming week. Go through each of the

Figure 5
Sample Structured Overview


Arithmetic
Rational Numbers
Integers
Nonintegers (fractions)
Positive
Negative
Common Fractions
Decimal
Percent
Members
Ratio
Numerator
Denominator
Comparison
Proportion

Note: Adapted from Earle, 1969.

steps for constructing a structured overview. Present and explain your diagram to a colleague or friend. Reconstruct it if necessary. Once you are satisfied, try it with your class. (Hint: When introducing a book or story--whether in a high school literature class or in a kindergarten storytime--you can use the names of key characters and perhaps some identifying personality traits or roles!)

Outlines

It is likely that you have more experience with outlining than with either of the structuring strategies discussed earlier. As a student you may have learned a particular form of outlining. As a teacher you might want to teach that same method to your students; or you may prefer to develop outlines for yourself to use in teaching subject matter to your class. Like advance organizers and structured overviews, outlines can be used to organize information so that it can be learned and retained more easily by your students. So the question becomes, "How do you want to organize the material to be presented?"

Probably the most common pattern for outlining looks something like this:

I. Major topic/main idea

    A. Main idea/important detail

        1. Related/supporting detail

        2. Related/supporting detail

II. Major topic/main idea

This form would continue for all the main ideas to be covered. In constructing, as well as in presenting, the outline, you should focus on the important information and the important relationships. Whatever form you choose should be a visual representation of those ideas and relationships. Following a specific format, which you explain to your students, will help them understand the relationships and understand the difference between main and supporting ideas.

In textbooks the organization for an outline is sometimes nearly accomplished for you. So why reinvent the wheel? Use what is available! Chapter headings, section headings, boldface print, words in italics--all of these are clues to the important ideas and terms. An advantage in using the text in this way is that when your students begin to read they will already be familiar with many of the ideas and vocabulary and already have some ideas about their relative importance.

Your class, however, may be reading texts that provide no such organization. Or you may not be using a text at all. Or you may be using a multi-text approach. All of the work is then up to you! You may prefer outlining to other structuring techniques.

As you have probably anticipated, it is now time to experiment!

Practice Activities

1. The following is an excerpt from a middle school basal reader. As you read, begin to "collect" main ideas. You can attend to the details later. Consider that this selection is only the beginning of a social studies/science unit you are developing that will focus on the discovery, uses, and importance of fire in humankind's development.

> Early [humans] found several very important uses for fire in [their] home[s]. The first was as heat. Not being equipped with protective fur, [humans] found fire extremely useful during the long, cold winter nights. Built under the shelter of a rock overhang or inside a cave, a fire gave a cozy warmth.
>
> Fire also produced light, and light gave more meaning to the long, dark nights. It was probably by firelight that the first artists in history

> painted the wonderful pictures which have been found in prehistoric caves. This light also enabled the women to make clothes and the men to chip weapons.
>
> Fire performed another valuable function, as well. All wild animals were deathly afraid of the blazing heat which singed fur and caused pain and death. So fire was perhaps [the] first defensive weapon. But there were other and more important uses of fire yet to come.
>
> It seems quite natural today to use fire for heat to cook food, but it undoubtedly took a great many years before early [humans] learned to use fire in that way. Perhaps it came about accidentally when some raw meat fell into a fire. Or maybe hunters found the burned bodies of animals after a forest fire. However it was discovered, the use of fire for cooking was extremely important in the history of [humans]. (Note: From Early, M., Canfield, R., Karlin, R., & Schottman, T. A. [1970]. Reading to learn [2nd ed., pp. 202-203] New York: Harcourt Brace Jovanovich.)

You probably concluded that the excerpt focused on early uses of fire. Following the outline structure presented earlier, this could serve as the first major topic:

I. Early uses of fire

The main uses of fire subsequently discussed were heat, light, defense, and cooking. Build the outline:

I. Early uses of fire

    A. Heat

    B. Light

    C. Defense against animals

    D. Cooking

Now reread the selection for important supporting details that might help your students understand and remember the information better. Remember that you will be explaining the outline to your students as you present it, so you will be guiding them in understanding key concepts and relationships.

Your final outline might look like this:

- I. Early uses of fire
    - A. Heat
    - B. Light
        - 1. painting
        - 2. making clothes
        - 3. making weapons
    - C. Defense against animals
    - D. Cooking

If you were planning to have the class read this selection or a similar chapter, you might present only the major topics and main ideas and ask them to fill in the details. This would serve as a study guide through the material and could be an introduction to outlining as well. It is just as possible to omit the main ideas, but include the supporting details in your presentation, and have the students read to find the main ideas. The outline could then be completed with input from the entire class. And you thought that outlining was just a tedious task! It certainly does not need to be relegated to that. You can weave it into other motivating strategies designed to involve students more actively in their learning (as well as in your teaching!).

2. For the next activity assume you are a high school social studies teacher. In a unit on economics you will be discussing employer-employee relationships. Because of space limitations here, we cannot review all

of the materials you might use in this unit. We will look only at a small section of a textbook; the topic selected is employee strikes. Your goal in this unit is to present as fair a picture as possible but also to encourage discussion and help students develop informed opinions. As you read the selection be alert for main ideas; focus on details after you have your basic outline.

> Why do strikes start? What issues cause them? One major cause of nearly all strikes is the demand for general wage increases. The rising cost of living seems always to diminish the purchasing power of the worker's dollar. To offset this trend, workers periodically seek new contracts with significantly higher wages. Employers, on the other hand, oppose large-scale wage increases, since their own costs have been rising, too. These rising costs, coupled with a larger payroll, severely reduce profits. Workers and employer cannot come to terms, so a strike results.
>
> Job security is another root cause of strikes. Job security is protected in part by rules involving seniority and division of work. A worker who has held a job with a company for a long time is said to have *seniority* . . . Recently, union workers have been *demanding job security in the form of a guaranteed annual wage*. (*Note*: From Linder, B. [1971]. *Economics for young adults* [pp. 166-167] New York: W. H. Sadlier.)

Now develop a basic outline for use in introducing this new topic to the class. Try to work all the way through before comparing it to the sample (see Box 3). You can use individual terms, phrases, or complete sentences. It is up to you! Do it now and then return to the text.

Note: When developing an outline bear in mind that you need not present it in complete detail in the introductory phase of the unit. Like the structured overview, the outline can be presented in stages, if

Box 3

Sample Outline: Employee Strikes

I. Causes of Employee Strikes

A. Demand for general wage increases lead to conflict between employer and employee

1. Employee perspective
a. Cost of living increases

2. Employer perspective
a. Rising costs
b. Larger payroll

B. Job security for employees

1. Seniority

2. Division of work

3. Guaranteed annual wage

that is more appropriate to your purposes. You can also refer to the outline, or to segments of it, as you progress through your learning materials. This approach is especially useful in showing how new concepts are related to those which the students have already learned.

In this example a few terms--e.g., "employee perspective"--have been added which may not be represented in yours. They were added primarily to assist in explaining the conflicts to the class. Your outline may have focused on the unfamiliar vocabulary included in the excerpt. Because of the importance of technical vocabulary in understanding economics, this may be a worthwhile approach. What is most important here is that your outline be structured so that your students become familiar with key concepts and relationships and begin to understand the structure of this new information in view of the larger topic or the larger discipline.

3. For this exercise refer back to Activity #1 in the section on Structured Overviews. Using the same vocabulary list (the complete one) develop an outline instead of an overview. Remember that you are focusing on vertebrate animals, but show where you would include invertebrates in your outline. An example of an appropriate outline for this topic is shown in Box 4.

Compare your outline with your overview. You may find one easier to develop than the other. Or you may find one easier to present to your class than the other. Let's try another comparison.

4. Again refer back to the Structured Overviews section, this time to Activity #3. You presented an overview to a colleague and then to your class. How well were they able to follow your presentation? Try this activity with the same class: In preparing your lessons for your next unit of study, develop an outline to be written on the chalkboard or presented with an overhead projector. You want your students to participate actively in your presentation. Make your outline as complete as you can (check it with a colleague) but be prepared to add appropriate student ideas. Before students begin reading or before they

Box 4
Sample Outline: Types of Animals

I. Vertebrates

    A. Major feature: have a spinal column

    B. Classes of vertebrates

        1. Mammals
            a. Dogs
            b. Cats
            c. Whales

        2. Birds
            a. Canaries
            b. Eagles
            c. Pigeons

II. Invertebrates

    A. Major feature: no spinal column

    B. Classes of invertebrates

prepare for a test, give each of them a copy of the completed outline. Be sure to refer to the outline as you progress through the unit or story so that students know how new concepts fit in with known ones.

Which was easier to develop--the outline or the overview? Which was easier to present? Which did a better job illustrating the important concepts? Which did your students follow more easily? Which had a more positive effect on their retention? These questions are easier to ask than to answer. Much depends upon your students, the materials, the key concepts, and which method appeals to you more--all important points to consider in selecting a strategy.

* * *

You have now learned about (or had a refresher course in) the importance of structuring your lessons. We have discussed and experimented with advance organizers, structured overviews, and outlining. We will now move on to the final strategy, reviewing, which is discussed separately here but is certainly related to the other strategies presented in this chapter.

Review

In this last section on specific structuring strategies, we will discuss the importance of review and suggest some effective uses of this method. Hoover (1971) described review as "one of the oldest, most basic methods of teaching" but also one of the "most widely misunderstood and misused practices" in education (p. 491). He stressed that the goal of review is to "develop a new view relative to previous learnings" (p. 492). Sound familiar? He cited two criteria essential for effective review: first, the students must have actually learned effectively; and second, the learning must involve critical thinking or problem-solving. While the first criterion may be self-evident, the second is not.

Think back to a class--any grade level will do--in which you and your classmates were led in an oral recitation "review" by your teacher. All of you could recite whatever information was requested but probably did not have a clue as to its meaning. Perhaps you remembered something such as, "What were the three causes of World War II?" or "What is photosynthesis?" Or, a common experience for the pre-Sesame Street preschooler is the request to "Say your ABC's for your grandmother." (Did you really know what "elemenopee" was?) If tested, you could list the causes, give the glossary's definition, or give all 26 letters almost on-key, but did you understand what you were saying? Could you perform as well today? Only your knowledge of the alphabet seems to have been strengthened by such drill. Answers to the other two questions probably seem more complicated now.

Hoover cautioned against using drill in place of review. Drill and practice are effective for learning skills and habits; this is usually best accomplished when done individually (remember your French flashcards?). Review is best used in a group setting where your goal is to extend what students know by affecting their attitudes and understandings. In the past several years the word "drill" seems to have become an educational dirty word, but instead of examining our use of the practice, we simply replaced the term with "review" and continued to misuse it! So rather than abandon an effective technique altogether, it would seem more sensible to use it discriminantly.

The placement of a section on "review" at the end of a chapter seems appropriate, but actually it might well have been placed near the beginning of the chapter or even tucked between structured overviews and outlines. While it may be traditional to end a lesson with a review or summary, we might begin a class with a review of yesterday's lesson before introducing new material, or we might review in the course of a class period as a way of making a transition from one topic to another, or one concept to another. Your purpose, rather than any absolute, should determine the placement of any reviewing or summarizing you do with your students.

There are two basic phases to a review lesson: recapitulation or recall of what has already been learned and extension of learning to related areas. You can see how this might be done at the end of a unit as a way to summarize and then encourage broader understanding and discussion of a topic. It might also be done between units to organize the information just learned and to begin to speculate upon what might be covered in the upcoming unit. Herber (1970) took a rather strong position on the importance of review:

> A student will experience learning difficulties if he or she does not have the benefit of review. If he [or she] does not go over previously learned information to speculate on its relative value and bearing on the new topic, his [or her] only recourse is to memorize isolated bits of information with little purpose or focus. (p. 33)

As with the strategies discussed previously, "how to" becomes the question. Before you flip on the switch for the creative synopses to begin sparking, take a few minutes to review the activities in the previous sections. Advance organizers, structured overviews, and outlines can all be used in reviewing as well as in introducing a class or a whole unit.

Practice Activities

1. For this activity, refer back to Activity #1 in the section on Advanced Organizers. How could you modify your advance organizer to use it as a post organizer before moving on to a unit on child development and child rearing? Remember Hoover's two phases of review--recapitulation and extension. Stop here and develop a brief written review based on your advance organizer, focusing on the recall phase (remember the assignment you initially gave your students). When you have finished, develop three or four discussion questions to set the stage for the next unit on child development.

As part of the recall phase, you might have focused on how and why personalities differ, why we evaluate a personality as good or bad, or what consistencies students found in the people whom they observed. If you studied specific theories, you might have had students describe a person from the perspectives of two very different theories of personality.

Moving on to the extension phase, and keeping in mind the upcoming unit, you might have asked the students if they believe people develop according to specific theories. If so, how does that happen? If they believe in a particular theory, how does that affect how they look at other people? How might that affect how they would raise their children? Can they guess their parents' views on personality development? Whether or not you developed similar questions, you want to extend your students' knowledge by raising their curiosity, challenging their understanding, and exploring their attitudes in preparation for the next unit. Can you see how you have strengthened their cognitive structures in the process?

The other preinstructional materials you developed while proceeding through this chapter similarly can be used as review materials, during a unit or at the end. To use them as review requires preplanning (of course!) and attention to the two phases described by Hoover.

2. Textbooks can be wonderful sources of review materials. Sometimes they actually label "summary" or "conclusion" paragraphs. Even when not so clearly identified, signal words or phrases within the paragraphs can be easily located, for example, "in review," "the important point," "as a result," "to summarize," or "in conclusion." How often do we actually teach our students to look for such clues? Do our students know how to use these same reviewing hints to preview their reading assignments?

For this activity, select a textbook chapter that your class will be reading soon. Preview the chapter searching for helpful review paragraphs and signal words to which you can alert your students. Mark these clearly for yourself. Now this may seem a bit of a reversal, but for this assignment use these selections as a preinstructional strategy to guide your students through the reading materials. You are actually using available review materials to introduce your class to new content, but you need not discard the materials at this point. At the end of the unit, take the class back through those same sections to recall the material presented and then to extend their understanding. Using the materials available to them and alerting them to signal words help them develop strategies which they can use independently.

Note: Robinson (1978) noted that many mathematics textbooks do not contain summary sections. Instead, they include a list of important concepts at the end of the chapter. In such a situation, you can direct your students to use such lists in reviewing what they have learned. They can be redirected to the text for any concepts or ideas that they do not recall or understand.

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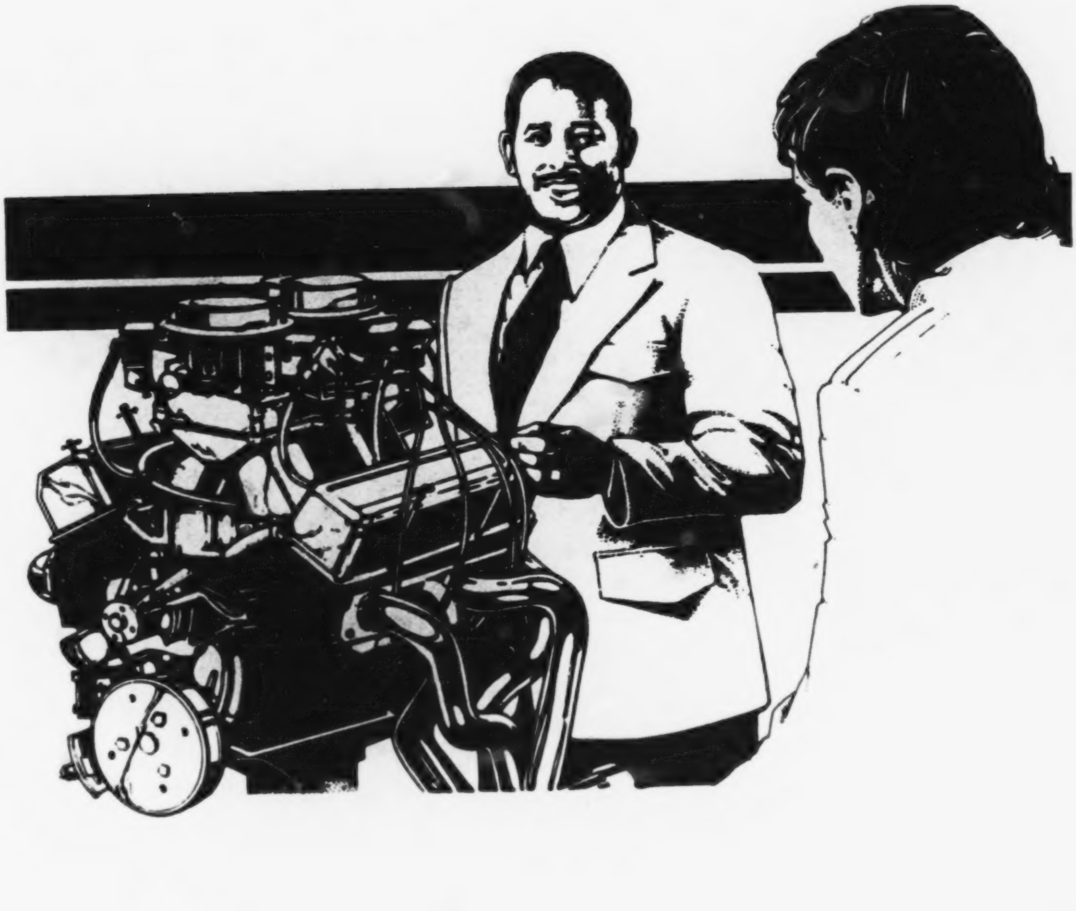
MEANINGFULNESS



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DEFINITION OF COMPETENCY

The competent teacher knows that learning is facilitated when content is related to learners' interests, to common experiences or to information with which they are familiar. The importance of meaningfulness in learning has been formally established by research in human learning done in psychological laboratories; practicing teachers have recognized its importance for many years.

PURPOSE

"Meaningfulness" is one of those concepts in education that seems immediately familiar. Its premise--making lessons relevant to the learners--would appear to be based on common sense, but even common sense concepts such as meaningfulness may not be easily translated into teaching. This chapter will facilitate your understanding of the concept by acquainting you with some of the theoretical and empirical literature on topics relating to meaningfulness. The chapter also will assist you in making your lesson content more meaningful by suggesting several pertinent activities for you to incorporate into your teaching.

BACKGROUND KNOWLEDGE

It is believed in many professional fields, including education, that theory should guide practice or at least guide our thinking about practice. In your preservice course work, you may have become familiar with educational theorists such as John Dewey, Robert Gagne, and Ralph Tyler. Each has offered theoretical support for the concept of meaningfulness.

In his description of an education which draws on select learning experiences, Dewey (1938) states:

> A primary responsibility of educators is that they [not] only be aware of the general principle of the shaping of actual experience by environing conditions, but that they also recognize in concrete what surroundings are conducive to having experiences that lead to growth. (p. 40)

It is not enough to be abstractly familiar with the idea that making lesson content more relevant to learners facilitates learning. The idea must be skillfully enacted. We as instructors need to be able to select from myriad experiences of learners those which will be most beneficial. The term "experiences" used here refers to the broad range of curricular and extracurricular learning sources from which instructors can choose--course work, instructional materials, knowledge of community and the world, and learners' interests and backgrounds. Tyler and Gagne agreed that instruction should engage select experiences and advocated that in choosing experiences to employ within a lesson, teachers need to draw first on things familiar to the learners. By so doing, they motivate learning and encourage learners to become active participants in the learning process. Tyler (1949) notes:

> The learning experiences must be such that the student obtains satisfactions from carrying on the kind of behavior implied by the objectives . . . If the experiences are unsatisfying or distasteful, the desired learning is not likely to take place. (p. 66)

It was Gagne's belief that the inclusion of external cues to learning--for example, learners' interests--facilitates the cognitive retrieval of the verbal information presented during instruction. The learners are motivated by the fact that their retrieval of learned material has been eased, and this motivation can guide other learning processes, such as performance. A motivated learner may be expected to perform a verbally-oriented skill better and receive positive feedback from the teacher for the performance. Thus, a successful learning sequence is completed: the mix of select experiences and lesson content yields motivated cognitive retrieval which may yield effective performance.

We as instructors, then, need to establish the critical, motivating link between something the learner already knows and what we would like her or him to know. According to Gagne (1976),

> The essential task of the teacher is to arrange the conditions of the learner's environment so that the processes of learning will be activated, supported, enhanced, and motivated. Thus, the teacher needs to be aware of what the processes of learning are and of the specific influences he can exert on them in order to provide successful instruction! (p. 42)

The theorists caution, however, against engaging complementary experiences haphazardly during instruction. We need to know how to use effectively the selected learning experiences within a lesson structure. Dewey (1938) maintained that the beginning of a lesson should include experiences particularly familiar to the learners. The early inclusion of these experiences provides the initial backdrop for further learning.

Tyler (1949) advocated drawing experiences from the learners' own interests and the teacher's knowledge of learners' lives outside school and utilizing them according to "continuity," "sequence," and "integration." By "continuity," Tyler meant that the experiences should be selected and employed so that they exemplify the content at different levels. If you embrace a Piagetian philosophy of child development, you know that children rarely function at one, exclusive, clear-cut cognitive developmental level; they are often just a little below or above their predominant level at any given time. It is important, then, that the experiences employed enhance the at-grade presentation of the content and provide a more or less advanced illustration if necessary.

A "sequence" in the employment of experiences means that each experience selected should build successively on the preceding ones. The experiences also should reflect "integration," that is, they should illustrate the overall relationship between content units (Tyler, 1949). Material employed to help learners establish a meaningful link may be high in familiarity or capable of logical organization (Gage & Berliner, 1984).

Educational theorists, then, suggest to us at least three things relative to "meaningfulness":

1. Linking new and familiar learning is instructionally worthwhile.

2. Choosing learner-satisfying experiences is necessary.

3. Organizing the selected experiences for effective use is important.

Research of these theoretical claims has been primarily in the field of educational psychology. Interestingly, we have learned that some teachers feel that the consideration of learners' interests should be a fundamental element in planning (Taylor, 1973) and that effective teaching requires that the teacher be familiar with the backgrounds of the learners, especially for populations of leaners of high socioeconomic status (SES) (Brophy & Evertson, 1974). The major focus of the empirical literature has been, however, the examination of techniques for establishing meaningfulness during instruction. The literature points to several methods teachers can use to assist learners in the encoding of information for ready retrieval. Following are descriptions of several techniques to help teachers establish instructional meaningfulness.

Mediators

Mediators, often in the form of covert verbalizations, create meaningful links between seemingly unrelated items or ideas (Gage & Berliner, 1984). Mediators help learners organize or encode incoming information for faster, more efficient retrieval later. Kendler, Kendler, and Learnard (1962) initially set out to determine if children more frequently employ mediators in a particular type of learning situation as they grow older. In the study, 3- to 10-year-old children were asked to choose the "right" picture given a pictured pair of black and/or white squares. The right choice was determined randomly in advance by the experimenter and depended the size and brightness of the pictured figures.

In addition to finding out that the number of children who mediated--that is, employed a strategy for choosing between the pictures--did indeed increase with the age of the children, Kendler et al. discovered that the children who mediated seemed to learn faster than those who haphazardly or stubbornly guessed. If the children were able to establish some link between the "right" choices early on and were able to amend their strategy as the test situation warranted, they appeared to be more successful at the task. Post-test questioning revealed greater and more detailed verbalization by the children who mediated, which implies that there is a link between the ability to connect words with actions and the use of mediators (Kendler et al., 1962).

We as teachers can help the mediating process along by providing students with examples of connecting links between seemingly unfamiliar or unrelated bits of information. For example, if a learner has a list of words to remember, the teacher may assist memorization by reading the words aloud and providing sentences that illustrate the use of the words. After reading the words "comb" and "cup," for example, a teacher might say, "The comb is in the cup." (Gage & Berliner, 1984). This technique may be particularly helpful in foreign language learning or advanced science courses wherein new vocabularies need to be remembered and linked.

Mediators can help students remember key concepts in a lesson. For example, a middle school social studies teacher who wants his students to remember "Delaware" and "chemicals" might say:

> Delaware is important to the chemical industry; Delaware manufacturers supply chemicals for the world; the growth of the chemical industry is reflected in the history of Delaware.

Similarly, a high school English teacher who wants her students to remember "Ophelia" and "rejection" might say:

> Hamlet's rejection of Ophelia led to her unstable condition; seemingly unwarranted rejection left Ophelia delirious; the inability to cope with rejection resulted in Ophelia's suicide.

Practice Activity

Construct your own mediators for material you will teach. Remember to first identify "unrelated" bits of information, then develop the linking statements you will verbalize to your class.

Advance Organizers

Instructors are encouraged to use advance organizers to evoke meaningfulness in lesson content. David Ausubel is often credited with the theory of advance organizers. Ausubel and Robinson (1969) define advance organizers as:

> deliberately prepared sets of ideas which are presented to the learner in advance of the body of (meaningful) material to be learned, in order to insure that relevantly anchoring ideas will be available (p. 145).

These sets of ideas are usually presented in a brief oral or written form and at a high level of generality and inclusiveness. An advance organizer acts as an anchor or "mental scaffolding" upon which to "hang" the subsequently presented content (Gage & Berliner, 1984, p. 314). As does the mediator, the advance organizer attempts to bring familiarity and/or logical organization to material.

Advance organizers differ from the more commonly used overviews and summaries in that they are designed to relate content to students' knowledge, are presented well in advance of the beginning of a unit of instruction, and are presented at a higher level of abstraction, generality, and inclusiveness than the material to be learned.

Early studies of advance organizers have suggested they facilitate learning by

1. drawing out and mobilizing relevant and established anchors, making new material seem more familiar;

2. including the relevant specifics of the material under a larger, general principle;

3. eliminating the need for rote memorization of the unfamiliar (Ausubel & Robinson, 1969, p. 148).

The early research has suggested also that advance organizers are more effective if the material they precede is factually-oriented rather than abstract; if the material is organized from the general to the more detailed; if the amount of advance information covered by the organizers is sufficient; and if the organizers are stated in learnable and familiar terms (Ausubel & Robinson, 1969).

There has been controversy, however, over whether advance organizers are indeed effective. After analyzing 135 published and unpublished studies of advance organizers, Luiten, Ames, and Ackerson (1980) concluded that advance organizers actually did appear to be effective in facilitating learning. Both learning and retention were facilitated and the process of retention increased over the 4- to 15-week duration of the studies. College and special education students learned more after the introductory passages, but primary and secondary students retained more. The authors found also that students of higher ability benefited most from advance organizers and that aural presentations reaped more rewards than did written ones.

According to Ausubel and Robinson (1969) we can use advance organizers effectively in our classrooms under two conditions. When learners lack specifically relevant information pertaining to the desired material, we can use expository advance organizers, which introduce new material in terms familiar to the learners.

For example, in introducing a completely new arithmetical operation--long division--to an elementary school math class, we can state that division uses all of the operations previously learned, such as addition, substration, and multiplication. Or, if we taught these operations via set theory (e.g., "3 + 4 means combining a set of 3 objects with a set of 4 objects," 3 x 4 means 3 sets of 4 objects each"), then we can introduce division in the same way. We can review the previous statements and continue, describing division (e.g., "12 divided by 4 means grouping a set of 12 objects into 4 smaller equal sets"). In this way, we have evoked familiar operations and terminology to introduce the new operation.

When learners are somewhat familiar with aspects of the material to be learned but do not recognize its relevance to previous learning or to their own experiences, we can use comparative advance organizers, which clearly point out similarities and differences between the content to be presented and knowledge that the learners have already acquired. For example, physical education instructors might want to introduce a unit on sports such as tennis, racquetball, badminton, and squash. It is very likely that all members of the class are at least vaguely familiar with one or more of these sports, so our introduction can point to the similarities among them (e.g., the using of racquets, the playing on courts, the scoring determined by volley outcomes). We can point to differences between them also (e.g., the length of the racquet handles, the varied balls or shuttlecocks, the kinds of courts). Thus, we have employed a comparative advance organizer to provide initial meaning to a new unit.

Whether you use expository or comparative advance organizers, an advance organizer should be presented for each new unit of material. The written or oral introductory statement you present should include a general overview and relevant elements of the material upon which learners can organize any existing knowledge or any subsequently gained knowledge of the subject. By so doing, we help learners avoid attaching the new material to inefficient anchors or irrelevant, tangential points of reference--events that would lead to ambiguity and short-lived internalization of the material.

Practice Activity

Refer to the advance organizer you wrote for the chapter on CLARITY OF STRUCTURE. To insure its contribution to the building of meaningfulness, ask yourself these questions:

- Is it written and will it be presented far enough in advance to orient learners initially to what is to come?
- Is it brief?
- Does it differ from the overviews and summaries you will eventually use in the lesson?
- Does it describe the topic generally, yet in enough detail to give learners an adequate preview of the material ahead?
- Is its style more general and inclusive than the actual presentation of the material will be?

Your advance organizer should encompass all of these elements.

Set Induction

According to Schuck (1981), the set induction method was developed at Stanford University in the 1970s. Simply stated, a set is a cognitive readiness to learn. "Set induction," then, is

> the initial instructional act on the part of the teacher for the purpose of establishing a frame of reference deliberately designed to facilitate the creation of a communicative link between the experiential field of the pupil and the desired behavioral objectives of the learning experience. (p. 228)

Set induction draws on elements of several of the techniques we have discussed already in this chapter. We are encouraged to begin with an orienting period, familiarize learners with the desired content through the use of analogies and pervasive themes (themes that unite the main ideas of the lesson), and encompass the lesson in a relevant context. As can be seen in the example in Box 1, set induction provides a familiar anchor upon which to attach new learning.

Schemata-Based Instruction

The idea that we should create the contexts or learning sets from which we want learners to work is furthered in research concerning the engagement of "schemata" to establish meaningfulness.

Schemata are abstract cognitive structures. According to Anderson, Reynolds, Schallert, and Goetz (1977), schemata

> represent the generic concepts underlying objects, events, and actions. Schemata are abstract in the sense that they contain a "variable," "slot," or "place holder" for each constituent element in the knowledge structure. (p. 369)

Schemata specify the relational networks of their constituents. In other words, "schemata" are more general than "concepts" and cognitively surround and interrelate our perceptions of the world. Gage and Berliner (1984) contend that a

> general implication for education is that the schemata a person already possesses are a principle determiner of what will be learned from a text. (p. 317)

Box 1
Example of Set Induction for Lesson on Human Respiration

1. *Orientation:* The teacher begins the lesson by exhibiting a model railroad car for the purpose of starting a discussion of the role of the hemoglobin molecule in the respiratory process.
2. *Transition:* The teacher makes the railroad car analogous to the red blood cell–it takes on and carries an important raw material (oxygen) to the body cells where it plays a key role in the oxidation process producing energy.
3. *Operation:* The teacher introduces the function of the heme molecule in hemoglobin by explaining that it is the iron atoms that bond to the oxygen and that these bonded atoms are carried in the red blood cells to the living cells. Once these molecules reach the cell membrane, they are released giving up the oxygen and taking on carbon-dioxide, which is then transported to the cells in the lung tissue for eventual expulsion from the body. Hence, they function like a railroad car bringing raw material to the cells and taking away waste products.
4. *Evaluation:* The teacher then seeks clues to the level of student comprehension through asking questions about the chemical bonding, the oxidation process, etc. Related material such as the role of red blood counts, anemia and its effect upon the human body, the reasons for ingestion of iron, and the role of menstruation in females may be explored depending on the teacher's instructional objectives and the nature and level of the students in the class.

Note: From Schuck, 1981, p. 228.

Instructional materials are rarely exhaustive; therefore, learners' schemata must "fill in the gaps" and make inferences. The problem is that learners, especially inexperienced young ones, may fill in the gaps inappropriately if left to rely on their own limited schemata. The contexts young learners provide for themselves may prohibit them from learning desired material; they may make inappropriate associations between content elements, reducing the material to personally irrelevant gibberish. Teachers, on the other hand, can provide contextual information or relevant schemata for content elements that can enable learners to "cross-list" efficiently new learning with old (Gage & Berliner, 1984, p. 318). As with the set induction method, statements such as "long term memory is like a giant card catalog" (p. 318) can be used by the teacher to engage desirable schemata in learners.

Anderson et al. (1977) examined the influence of schemata on comprehension of written passages. Sixty college students--music education and physical education majors--were asked to read two passages and then to answer questions about them. Each passage could be interpreted at least two ways: in terms of a "wrestling match" and of a "music rehearsal". As expected in view of the schemata theory, physical education majors gave more correct wrestling-consistent responses and music majors gave more correct rehearsal-consistent responses. The authors concluded that people's personal histories, knowledge, and beliefs do indeed influence their interpretations of prose.

Additionally, the authors found that high-level schemata not only influence the way people interpret messages but do so to the exclusion of other interpretations. The majority of students in the study were unaware of the alternate interpretations of each passage. Distortions and intrusions (e.g., erroneous interpretations, ineffective networks) occur when gaps exist between the material and the learners' comprehension. These gaps can be exacerbated by an incompletely specified text, deliberate distortions by the instructor, disparate schemata of instructor and learner, and the text's appeal to one schema over another (Anderson et al., 1977). In such cases, learners may acquire the information but without efficient internalization or incorporation into their own cognitive schemata.

Carnine and Kinder (1985) found their schemata-based intervention to result in significantly higher reading comprehension scores between pre- and post-tests taken by 4th- through 6th-grade low-performing students. The researchers directed the teachers to ask questions about "the central characters, their goals, obstacles to reaching the goals, and a resolution" (p. 21) for each of three narrative stories and about "specific principles or relationships imbedded in the passages" (p. 22) for each of three expository stories. These questions were posed both before each story and at key stages in the stories.

Significant improvement in comprehension also followed a comparable intervention, "generative learning" instruction, that was employed in the same study. Using this approach, teachers asked students to close their eyes, imagine what was happening at that point in the story, and describe it. Then they were asked to summarize the entire story. The only significant difference between the two methods favored the schemata-based intervention on a maintenance test of the expository stories (Carnine & Kinder, 1985).

Practice Activity

Help your students become "active" learners. Using Carnine and Kinder's schemata-based intervention approach described above, teach your students the major components of a story and the kinds of questions to ask to help them identify those elements.

Make sure to match the questions to the appropriate type of material. Narrative or action stories, such as those found in literature books, take the following kinds of questions:

- Who is the story about?

- What does he or she want to do?
- What happens when he or she tries to do it?
- What happens in the end?*

Expository stories, such as those found in science books, take different kinds of questions:

- What is the rule being discussed?
- How do the examples given fit the rule?
- What other examples fit the rule?*

(*Note: Adapted from Carnine & Kinder, 1985)

Hierarchical Retrieval Schemes

Bower, Clark, Lesgold, and Winzenz (1969) examined the ability of certain overriding concepts to include less general concepts. To improve learner recall of categorized word lists, they employed hierarchical retrieval schemes. (Hierarchical arrangements can also be easily used as advance organizers, as is explained in the chapter on CLARITY OF STRUCTURE.)

Teaching hierarchically, or presenting material from lower to higher levels of abstraction, provides meaningfulness by supplying learners with a systematic way of organizing material. The increased familiarity with material at the lower levels of a hierarchy aids learners' understanding of higher-level, more complex concepts. Structural information about the material is an important aid to recall.

In the Bower et al. study (1969), structural information was provided by categorizing word lists. The authors asked learners to remember lists of words--some randomly listed, others hierarchically arranged. It was hypothesized that recall could be effectively improved if a learner

> can discover or learn a simple rule or principle which characterizes the items on a list and which relates them to one another,

> then uses that rule as a retrieval plan in reconstructing the items from memory. (p. 340)

Hierarchically-presented lists such as those prepared by Bower et al. (1969) are distinguished by some structural principle which can be used later to generate the items from memory or to add other appropriate items. Conceptual hierarchies (see Figure 1 on next page) depict the breakdown of a single category into its subcategories. Associative hierarchies (see Figure 2) depict arrangements of items that relate to one another but that are not necessarily subcategorized derivatives. Associative hierarchies may be more easily employed in nonscientific subjects, such as English, as can be seen in Figure 3.

Results of the Bower et al. (1969) experiment revealed very high levels of recall by learners who were given a systematic retrieval plan (e.g., hierarchical depiction). The authors concluded that the familiar and easily learned retrieval plans "cued" recall of the word lists. Although a goal for advanced learners may be self-discovery of structural rules such as hierarchical categorization, we can facilitate learning by describing these rules or by helping learners to discover the rules for themselves.

Practice Activity

Examine the graphically represented hierarchies in Figures 1 through 3. Design one yourself. Let's say you are preparing to teach elementary school students about the structure of their school. Place your principal in the top circle and the two vice principals at your school in the first level of branchings. (This depiction of course assumes that your school has two vice principals, e.g., one for discipline, one for scheduling!) Continue the representation including clerical staff, teachers, learners at corresponding grade levels, and so forth. Now, what kind of

Figure 1. Example of a Conceptual Hierarchy: "Animalia"

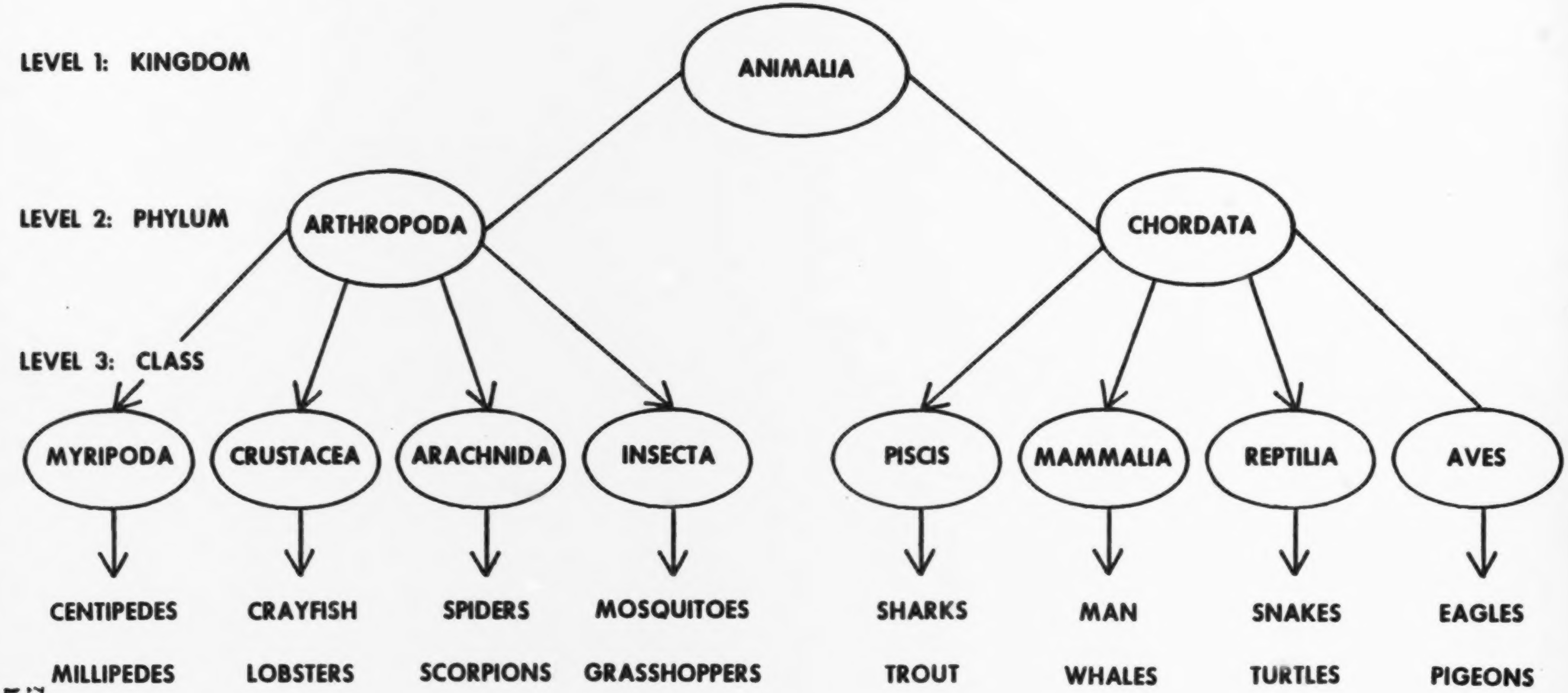

LEVEL 1: KINGDOM
LEVEL 2: PHYLUM
LEVEL 3: CLASS
ANIMALIA
ARTHROPODA
CHORDATA
MYRIPODA
CRUSTACEA
ARACHNIDA
INSECTA
PISCIS
MAMMALIA
REPTILIA
AVES
CENTIPEDES
MILLIPEDES
CRAYFISH
LOBSTERS
SPIDERS
SCORPIONS
MOSQUITOES
GRASSHOPPERS
SHARKS
TROUT
MAN
WHALES
SNAKES
TURTLES
EAGLES
PIGEONS

Figure 2. Example of an Associative Hierarchy: "Wood"

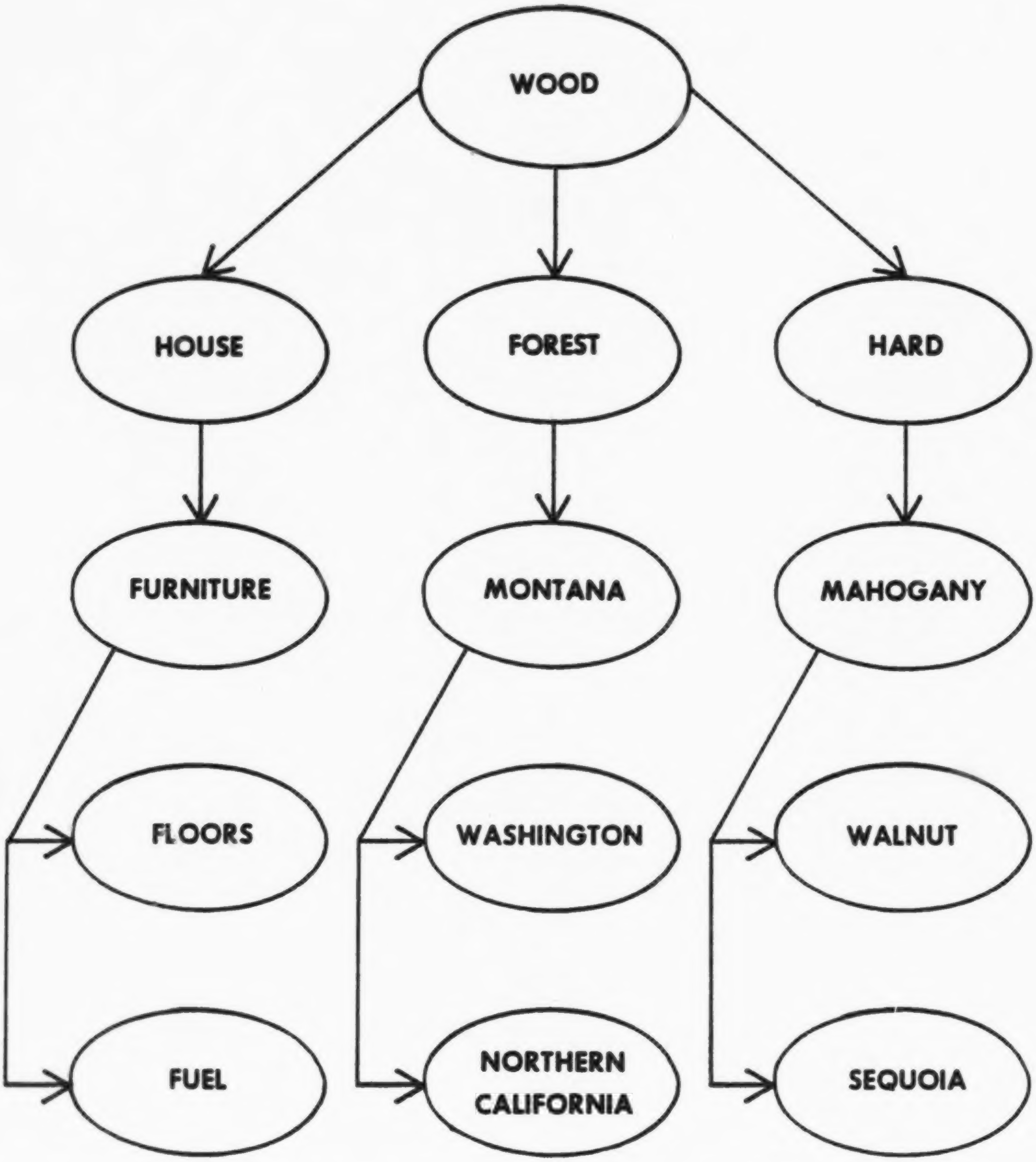
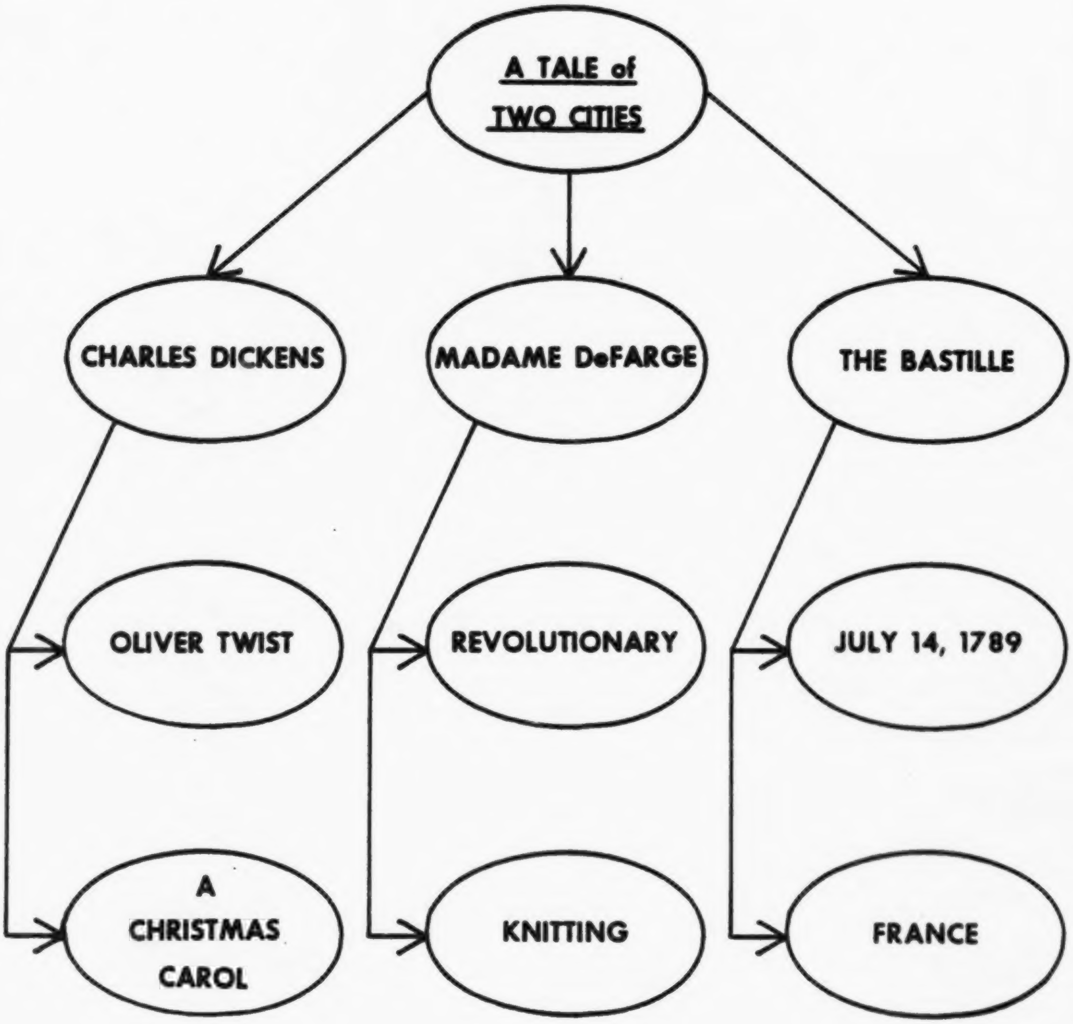

WOOD
HOUSE
FOREST
HARD
FURNITURE
MONTANA
MAHOGANY
FLOORS
WASHINGTON
WALNUT
FUEL
NORTHERN CALIFORNIA
SEQUOIA

Figure 3. Example of an Associative Hierarchy for an English Unit


A TALE of TWO CITIES
CHARLES DICKENS
MADAME DeFARGE
THE BASTILLE
OLIVER TWIST
REVOLUTIONARY
JULY 14, 1789
A CHRISTMAS CAROL
KNITTING
FRANCE

hierarchical scheme did you prepare--conceptual or associative? If you said "associative," you are right.

Mnemonic Techniques

Teachers can use a variety of techniques to help students recall information. These mnemonic aids, or memory aids, can be taught directly to students.

One type of mnemonic aid is to develop a catchy, easy-to-remember phrase in which the first letter of each word represents the material to be recalled. A familiar example of this is the phrase, "Every Good Boy Does Fine," which is used to recall the names of the lines of a musical staff, EGBDF. Another example is, "James Felt Marvelous And Magnificent; Jim Joined A Spa One Nice Day," to remember the months of the year. To help learners remember and organize zoological classification labels, you might offer the mnemonic "Kings Play Chess On Glass Stools," which represents the categories--kingdom, phylum, class, order, genus, species. Useful mnemonics are often popular with children and are remembered for years. It is surprising to realize how many adults remember from a long ago class at least one mnemonic for recalling, for example, the nine planets or the Great Lakes.

In a study by King and Yuille (1980), young children asked to remember information such as levels of water in containers (a horizontality task) and the clothing on a picture of a clothesline (a seriation task) were given either operative (functional) or figurative (symbolic) memory aids. For the water levels task, the operative aid involved a verbal description and a demonstration of the task, while the figurative aid involved a simple mnemonic. For the clothesline task, two contexts were presented to the children: a story emphasizing the color of the clothing and a story emphasizing the sequence of articles. Findings revealed that the majority (57%) of children taught the mnemonic could recall the water levels and a large percentage (93%) of those children presented with the "color" context recalled the color of the clothes. The authors concluded that memory for arbitrary, figurative information (e.g., color) can be maintained by the presentation of a meaningful context (e.g., a story). They concluded also that mnemonics could be useful in the assimilation of operatively advanced information.

Practice Activity

Imagine that you must describe the four main functional parts of the brain (i.e., the diencephalon, the midbrain, the brainstem, and the cortex) to a classroom of learners. How will you do it? You have at least two choices. You could take the first letter of each part (i.e., D, M, B, C) and incorporate them into a mnemonic like the one for months, or you could supply learners with a "house" context, describing each part as you tour the areas of the "house" (e.g., cortex = roof). For example, you could say: "Think of the diencephalon as the 'family room' because it contains the center of (nerve) activity; think of the midbrain as the 'hallway' because it is a connecting organ; think of the brainstem as a 'busy kitchen' since it receives and relays (impulse) traffic to other part of the body"; and so on.

Conclusions

Meaningfulness requires that teachers do a lot of work during planning and presentation. It requires that you get to know your learners, particularly as a group. Even so, it is not always possible to "get inside learners' heads" to determine which schemata they are bringing to the task. Tyler (1949) suggests that you find out as much as you can about the school community and about the interests and the prior learning experiences of your learners, via the use of such social science research methods as interviewing, questionnaires, observation, and examination of existing documentation (e.g., school records).

The keys to meaningfulness are associations: familiar, logical, and numerous associations. The more relevant connections you can draw, both between material the learners already know and new material and between the instructional material and the learners' backgrounds, the more successfully they will learn.

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INDIVIDUAL DIFFERENCES

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DEFINITION OF COMPETENCY

The competent teacher knows that learners progress at different speeds, learn in different ways, and respond to different kinds of motivation. Few generalizations about learning are better established than this one. Research indicates that teaching strategies should be adapted to these differences if all learners are to achieve their full potentials.

PURPOSE

The purpose of this chapter is to help you learn to use information about students sensitively and imaginatively so that you can ensure opportunities for learner success. The chapter will help you select goals and objectives which are appropriate to learners' abilities, cultural backgrounds, and handicaps and will suggest alternate ways for students to achieve objectives common to the whole group. It will also suggest ways to adapt instruction for your students with special needs, such as those with hearing or vision impairments, physical handicaps, severe learning problems, or unusual talents or abilities.

BACKGROUND KNOWLEDGE

Any school district's statement of philosophy and objectives will almost certainly include a reference to the individual needs and abilities of its students. No matter how it is worded, the intent is to expedite the development of the individual as a fully functioning, autonomous human being. To varying degrees, educators have committed themselves to dealing with learners as people who differ from each other in such areas as ability, cultural background, interest, and motivation. This commitment is honored every day in a variety of ways in the classrooms throughout the land.

Practice Activity

Locate and read both your school division's and your school's statement of philosophy and objectives. How well do you think you are applying the philosophy in your classroom? To what extent are you addressing the objective(s) dealing with individual development?

Indeed, the general public expects its citizens' educational needs--however diverse--to be met in its schools. The public will is expressed often through governmental or legislative action. Public Law 94-142, The Education for All Handicapped Children Act, is a good example of how concern for learners' individual needs affect schools and teachers. In part, this law was enacted because of the disappointing research findings regarding the academic and social effects of placing children in special classes and the negative personal effects of isolating handicapped children from their nonhandicapped peers. The law mandates that free, appropriate public education be made available to handicapped students between the ages of 3 and 18. It explicitly states that these handicapped students be educated to the maximum extent possible, and that they be removed from the regular education environment only when the severity of their problem is such that education in regular classes cannot be satisfactorily achieved. To assure that handicapped students have equal opportunities to be educated, the law dictates that each have a written individualized education program (IEP). Every IEP must include statements of the student's present level of functioning, of annual goals and short-term objectives for achieving the goals, of services to be provided and the extent of regular education programming, and of evaluative procedures and criteria for use on at least an annual basis. A time line of the special education services must also be included.

Recognition of differences among learners, of course, is not limited to special education. To a certain degree, every learner exhibits an individual approach to learning. Educational researchers and practitioners have long realized the importance of recognizing and attending to these individual differences. Indeed, current opinion suggests that educators should aim instruction at particular kinds of students and not at the mythical "average student." The fact that individual differences exist argues for pluralism and for an enlightened opportunism in the use of materials and methods of instruction. No single ideal sequence exists for educating any group of children.

But what does the term "individual differences" mean? How can a knowledge of differences among learners be applied practically by a teacher? To describe what people are like and how they differ from one another, and to perceive how one might go about capitalizing on learners' unique abilities, are difficult undertakings. Let us for a moment set aside questions of diagnosis--or deciding what learner characteristics should guide instruction--and consider instead how teachers try to adapt their teaching to different learners.

Essentially, a teacher has two general choices when he or she decides to fit instruction to individuals: allow and encourage learners to take different routes to the same objective or permit learners to accomplish different objectives. In other words, individualizing instruction means using various teaching-learning approaches or providing learners opportunities for attaining different educational outcomes.

Supporting students in alternate ways to achieve the same objective can be accomplished by employing some of the models for teaching concept development in children that are described by Joyce and Weil (1980). These models can help you teach individual students differently by permitting students to achieve objectives by using more of their own initiation and control. In Suchman's Inquiry Training Model, for example, a question or objective is posed by the teacher. The students then ask a series of questions to be answered only by "yes" or "no"; they then work toward the solution by investigating several ways to process the information needed to answer the original question. If they are trying, for example, to find out why light bulbs suddenly blow out, they might inquire independently by using different kinds of printed material, audio-visual materials, or experimentation. The whole purpose of the model is to guide them in pursuing these different paths. Such models also allow students to generate and test their own hypotheses, thus helping diverse learners reach a variety of goals.

Well designed basal reading programs that recognize the needs of both slow learners and high-achieving students offer different ways to achieve objectives and different objectives for individual learners. Several programs make provisions for individual differences by offering a wide range of activities, teaching strategies, and materials. Such programs include a component that helps the teacher monitor skill development for each student and prescribe additional practice after each lesson. For students who require additional instruction for remediation and reinforcement, there are repetitive teaching strategies and/or alternative approaches. For students who are ready to extend concepts, there are suggestions for enrichment using a variety of activities, projects, and supplementary readings. These programs are useful resources for beginning teachers because they are formatted for efficient planning and use step-by-step organization, including options for varying ability levels.

As teachers gain experience and develop a repertoire of effective teaching practices, they can expand on this approach to individualization by designing and operationalizing ways of working with different students, different curriculum materials, and different instructional procedures so as to maximize learning.

Prior Achievement

Differences in learner characteristics can influence both the ends and means of instruction. One excellent perspective on the relationships among learners, teaching, and objectives is offered by Tobias (1976): "the higher the level of prior achievement, the lower the instructional support required to accomplish instructional objectives. Conversely, as level of prior achievement decreases, the amount of instructional support required increases" (p. 67). For the classroom teacher this means simply that it is important to understand students' prior levels of achievement or understanding of particular material and to accommodate instruction to variations in such achievement.

Implementation of Tobias's prescription begins with the diagnosis of learner needs. Fortunately, there are many ways to determine if students have mastered particular concepts or material. For instance, to determine how well a fourth-grade student knows his or her multiplication tables, a teacher might give a written test or an oral quiz that includes all the tables. A more difficult task for the teacher is to fit instruction to the individual's knowledge of the multiplication tables. Providing more support to a student who scores poorly on a test or quiz does not necessarily mean giving the student more problems to work out. Instead, it might mean providing a series of different activities that are carefully structured to demonstrate concepts of multiplication, for example, grouping manipulative devices, using a calculator, or trying simple thought problems. Providing more support doesn't mean giving learners more of the same; it means helping them structure their thinking in ways they have not yet been able to do for themselves.

Concentrating on prior achievement is important in another way because it suggests a general type of learner characteristic which can serve not only to guide teachers in selecting instructional approaches but also to help them establish goals of instruction. That is, when teachers concentrate on learner characteristics that are modifiable--such as skills, knowledge, and attitudes--as opposed to those that are fixed and uncontrollable--such as race, sex, and age--they may teach with an eye toward helping individuals grow personally, socially, and intellectually (Cronbach & Snow, 1977).

Exceptionalities

Exceptional children are those whose performances deviate from the norm, either below or above, to such an extent that special education and related services are required if these students are to realize their potential. The mandates of PL 94-142, which were described earlier, apply only to students who are handicapped, however, and not to nonhandicapped students who are gifted or talented. Handicapping conditions recognized under PL 94-142 include mental retardation; learning disabilities; emotional disturbance; hearing, vision, and speech handicaps; physical handicaps; and other health impairments. Keep in mind that there is much variation in both degree and type of disability within each handicapping condition, that handicaps frequently overlap, and that they can change over time. For instance, a child who is physically handicapped may also be mildly retarded and have emotional problems; any of these conditions could improve or worsen, and thus the child's education program would need to be reevaluated.

Public Law 94-142 mandates not only that handicapped children have the right to free and appropriate education but also that the education be provided in the "least restrictive" learning environment possible. This means that most mildly handicapped students are spending at least part of their day in the regular classroom. Handicapped students are placed in regular classes according to their identified learning needs. A special education teacher (such as a resource room teacher) will help you select the special materials, teaching techniques and/or equipment that you may need to implement the handicapped child's educational plan.

It is important to realize that handicapped children are often socially ignored or even ridiculed by their nonhandicapped peers (see Sabornie, 1985). Teachers of mainstreamed students should therefore attempt to establish positive attitudes toward the handicapped and to encourage appropriate interactions between their disabled and nondisabled students. For example, students in a class that includes a hearing impaired child could be taught the manual alphabet (for "finger-spelling") and rudimentary sign language. To further reduce social isolation of mainstreamed students, teachers might develop a social skills training program or, if necessary, a self-care program. Such a program could be developed with the assistance of the handicapped student's special education teacher.

Many of the educational needs of handicapped children are similar to the needs of other students in your classrooms. As a result of improved identification and placement procedures, emphasis is being directed toward each child's educational characteristics. This could eventually prove to be a useful way of assessing all learners. In addition, the classroom teacher is in a key position to recognize those students who have special needs. A comprehensive diagnosis, however, is not the classroom teacher's responsibility, but that of specialized personnel in the school system. You should be prepared to communicate learners' problems and to work cooperatively with the professionals assigned to diagnose disabilities and prescribe treatments.

Although there is a trend toward noncategorical special education for mildly handicapped children, I will address the areas of exceptionalities using the traditional classifications because most of you will be dealing with these. (I must emphasize, however, that labeling children on the basis of any identified deficiency does not enhance self-concept and indeed may lower expectations and reinforce failure in their attempts to achieve.) Following is a survey of the types of exceptionalities you are likely to encounter in your classes and descriptions of teaching strategies appropriate for each. Remember that many of these strategies are appropriate for teaching regular class students as well as mainstreamed special education students.

Physical and Sensory Handicaps

There are many different kinds of physical handicaps, including epilepsy, cerebral palsy, paralysis, and chronic medical conditions. In the absence of other handicaps, physically disabled students should be given the same educational goals and curriculum as nonhandicapped students (Kneedler, Hallahan, & Kauffman, 1984). They may, however, require adaptive equipment such as special writing instruments, chairs, desks, or ramps.

You may have a student with a sensory handicap--i.e., a hearing, vision, or speech handicap--in your class. Consider the use of some or all of the following strategies for teaching children who are deaf or hearing impaired:

1. Seat the student in a good hearing-viewing location. Be conscious of where and how you teach.

2. Speak clearly, and be sure that the student can see your face when you are speaking.

3. Use visual signals, techniques, and materials.

4. Assign a "hearing buddy" to the student.

If you have a blind or visually impaired child, you might try the following strategies:

1. Give the student extra time for assignments and tests. He or she may need to have the material transcribe to Braille.

2. Read exams to the student or record them on tape.

3. Say aloud whatever you write on the board.

4. Encourage the development of listening skills.

5. Have other students act as note-takers using carbon paper. The child's resource teachers, parents, or volunteers can help transcribe into Braille later.

Children with speech handicaps may demonstrate disorders in articulation, fluency, and/or voice, or may be unable to speak at all. Kneedler et al. (1984) suggest the following techniques for teaching students with speech or language disorders:

1. Be alert to deviations in speech or language, and refer students demonstrating such deviations to a specialist for evaluation.

2. Maintain contact with the speech therapist to understand the goals and new speech responses to be reinforced in the classroom.

3. Create a relaxed yet stimulating atmosphere that is conducive to communication.

4. Never finish a student's sentence for him or her.

4. Reinforce speech impaired students' efforts to communicate by paying attention to them.

Learning and Cognitive Disabilities

Two groups of exceptional children will be considered in this classification: the educable mentally retarded and the learning disabled. These students are being educated successfully in the regular classroom. They require additional help because of the seriousness of their learning problems. You will notice that the teaching strategies described are appropriate for all students experiencing learning problems, not just those children identified as handicapped.

Mainstream programs for mentally retarded children should concentrate on acquisition of basic skills, with special emphasis on functional academic, self-help, personal/social, vocational, and communication skills. Hallahan and Kauffman (1982) offer some specific suggestions for classroom teachers to use with educable mentally retarded students:

1. Sequence learning tasks.

2. Simplify complex activities.

3. Use frequent repetition and drill.

4. Help the students verbally rehearse or talk through what they have to learn.

5. Maintain a sense of structure and familiarity, but introduce some novelty to increase motivation.

6. Help students develop effective school-related behaviors, (i.e., help them learn to complete tasks).

7. Assess continually.

8. Provide immediate feedback.

One way to simplify complex tasks is by using task analysis. This technique begins with setting a goal, determining the sequence of steps necessary to reach the goal, starting with what the student can do, and rewarding successful performance of each step. The successful completion of each step motivates the student to perform at progressively higher levels.

Most students identified as learning disabled are taught in regular classrooms and receive part-time resource room services. Defining "learning disability" or delineating a precise set of characteristics of the learning disabled student is problematic. The absence of universal agreement on what constitutes a learning disability has precipitated wide-spread controversy. Many children who do not achieve to their full potential in the classroom may be experiencing only minor or temporary difficulties in learning particular basic skills or subjects. Learning disabled students, according to Kirk and Gallagher (1979), exhibit a severe discrepancy between potential and actual achievement.

Learning disabled students generally demonstrate near-normal intelligence. Matching curriculum to their abilities is important in helping to close the ability-achievement gap. Providing experiences for success is very important, as it is with all students, especially younger ones. Direct instruction of precisely defined skills, many opportunities to practice, and the same monitoring, evaluating, and feedback used with other students with special needs are the most effective strategies you can implement.

Recent research has indicated that learning disabled students are defficient in "metacognitive skills," that is, they do not efficiently select or apply appropriate strategies for successfully completing tasks (see Wong, 1982). They seem to be "passive" rather than "active" learners. For example, learners who demonstrate good reading comprehension tend to use the following metacognitive strategies. You might want to help the learning disabled students (or any students with reading problems) in your class to develop these skills. According to Kneedler et al. (1984), good comprehenders:

1. clarify the purpose of what they are reading,

2. focus their attention on important parts of passages,

3. monitor their level of understanding as they read, and

4. backtrack or scan ahead for clues when they realize they are not understanding what they are reading.

Many learning disabled students are also characterized by hyperactivity or distractibility. The strategies suggested for use with students identified as behavior disordered (frequently referred to as "emotionally disturbed"), which are described below, may be applicable for these students, as well.

Emotional or Behavioral Handicaps

Children identified as mildly or moderately emotionally disturbed or behaviorally disordered are most frequently characterized by poor interpersonal relations, poor academic achievement, and poor self-esteem (Kneedler et al., 1984). Some are inordinately shy and withdrawn while others are overly aggressive. Still others behave in ways usually seen in much younger children. They are all handicapped by their inappropriate behavior. Many nonhandicapped children, of course, manifest similar behaviors but not as often and not as extremely (Heward & Orlansky, 1984).

The education of behaviorally disordered children parallels closely good behavior management for students in general (see chapter on REINFORCEMENT). Behaviorally disordered students respond well to a structured and predictable environment, with expectations for academic performance and standards of conduct communicated clearly and firmly. They should be able to depend upon consistent, appropriate consequences for their behavior, with the emphasis on reinforcement rather than punishment.

Remember, behaviorally disordered children, like all others, need to experience success. They also require the kind of warm, accepting environment described in the chapter on AFFECTIVE CLIMATE.

Giftedness

As I have pointed out, the regular classroom is often considered the least restrictive environment for special education students. Advocates of alternative education for gifted and talented children, however, argue that the regular classroom is too restrictive.

There are copious ways in which educators have defined, characterized, and identified gifted children. Renzulli and Smith (1980) offer a multiple criterion definition of giftedness (see Figure 1 on the next page):

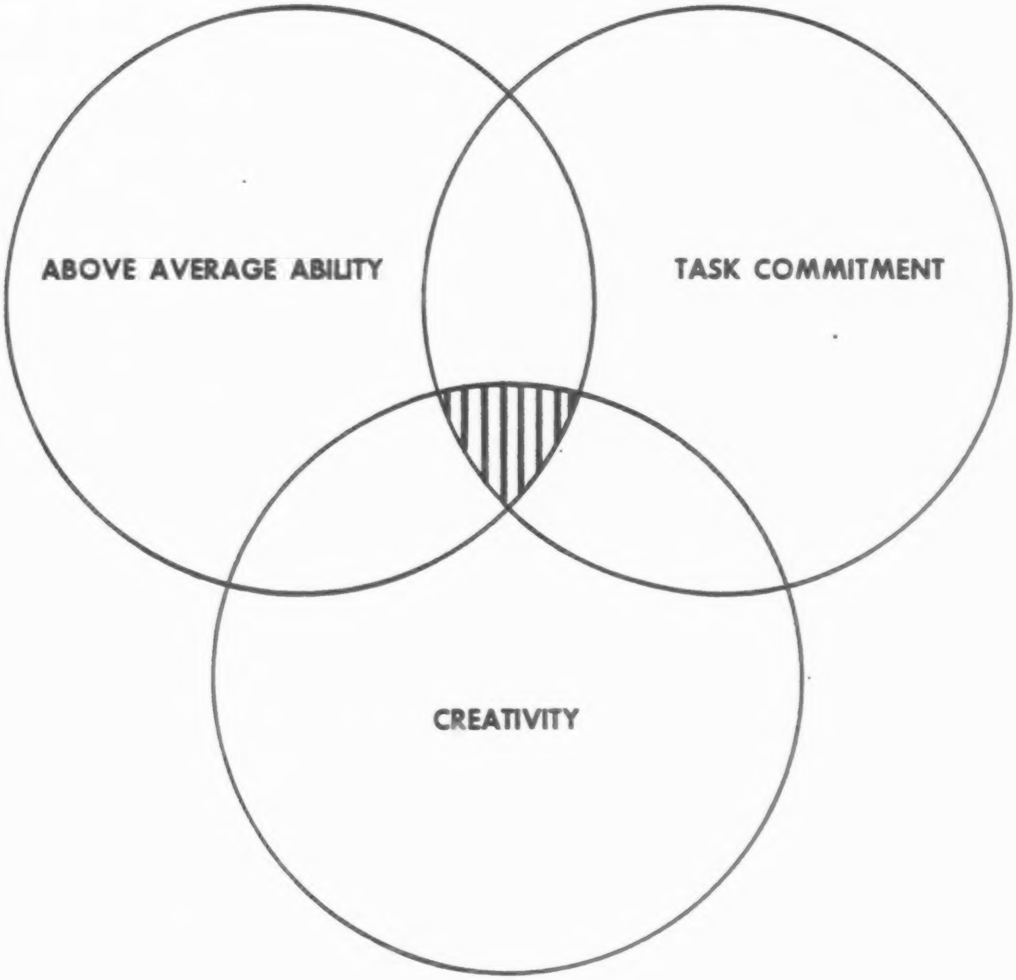
1. High ability (including high intelligence)

2. High creativity (ability to formulate new ideas and apply them to the solutions of problems)

3. High task commitment (a high level of motivation and the ability to see a project through to its conclusion)

According to the authors, these criteria are interactive rather then exclusive. Like other

Figure 1. Ingredients of Giftedness


ABOVE AVERAGE ABILITY
TASK COMMITMENT
CREATIVITY

exceptionalities, giftedness is not fixed or absolute; a student may exhibit the above criteria at different times and under different circumstances.

The most common types of educational services for gifted students are enrichment programs within the regular classroom setting; ability groupings, in which students are placed in special "tracks" according to ability; and accelerated programs that allow students to move more quickly through regular grades. Experts agree that the gifted need both content knowledge and the skills to be able to use that knowledge effectively. The debate over basic skills is not whether or not to teach them, but how to determine the proper time and emphasis.

One example of a regular classroom program designed to meet the needs of gifted students is Renzulli's "compacting of the curriculum." Essentially, compacting entails (1) determining through formal or informal assessment the curriculum content already mastered, and (2) substituting suitably challenging activities and experiences. For example, if a gifted fifth grader using a grade level mathematics textbook scores above grade level in mathematics concepts on a test of basic skills, then you could assign major checkup sections of the text to guarantee proficiency in basic skills. At that point, you might provide additional activities in one or more of the concepts (e.g., causality, probability, analogy, deduction, induction). In other words, you offer instruction in areas beyond those typically covered in standard textbooks. The resource personnel in your school or district could assist in selecting materials and pacing the enriched program.

There are many models recommended as guides for gifted education. Schools may have programs based on one model or a combination. There is no evidence to suggest that one approach is superior. Bloom's Taxonomy of Educational Objectives can be recommended, however, because of its adaptability to the entire range of students in most classrooms. The chapters on QUESTIONING and EVALUATION describe this approach in detail. Using Bloom's taxonomy, you would develop activities and structure them so that some would be appropriate and required for all students and others would be designated for selected students. Gifted students might be asked to concentrate on those activities at the higher levels of the taxonomy.

Practice Activity

Do you know the procedure in your school for referring a student who might be in need of services in addition to those offered in the regular classroom? Investigate the following:

1. Who are the specialists, what services do they provide, where are they located, and when are they available?

2. What forms are used, to whom are they submitted, and what is the prescribed time line?

3. How do you as the classroom teacher fit into the procedure?

Cultural Background

Understanding and being sensitive to students' cultural backgrounds and ethnic differences is fundamental for teachers in our pluralistic society. Every student comes to school as a whole person, with a culture and a language, values, attitudes, beliefs, and knowledge. We should make every effort to understand these so as to use them productively in the classroom. Students' learning and behavior are influenced by their cultural and ethnic perspective, as are teachers' actions and behaviors. Garcia (1982) urges teachers to try to understand how other cultural and ethnic groups perceive their social identity rather than view the value of a certain cultural or ethnic group from the perspective of one's own culture--not an easy task but important if we are also committed to broadening students' awareness and acceptance of diverse cultural heritages.

Employing an "ethnic studies" instructional model can help increase overall awareness and sensitivity. An "ethnic studies model" can be utilized in most classrooms irrespective of ethnic or racial composition or of subject matter; the model weaves multiethnic experiences into the classroom and can be used concurrently with other teaching and learning activities. For example, while students are learning to read, they can learn to share cultural interpretations of what they read. Several other applications of the ethnic studies model are listed below; try to add some ideas of your own.

1. In science, students can research famous scientists from several cultures.

2. In math, students can study how different ethnic groups, such as the Chinese or Aztecs, have calculated seasons and time of year.

3. Special knowledge of ethnic minority students may be used to build a sense of belonging (e.g., sharing ethnic games, songs or folktales can be done in the native language).

4. Depending on the range of ethnic groups in a class, or even in a school, there could be an ethnic food fair or international banquet.

Student Interests

Another factor that affects learning, but is frequently overlooked or not sufficiently emphasized, is student interest. Students' interests in particular areas of inquiry or subject matter are important considerations. Interest may be broad or narrow, intuitive or precisely defined, short-term or long-term.

Interests are developed in many ways. Students may be influenced by each other's interests and by those of parents and teachers. You can gather information about what interests students in a variety of ways. Listening to students is one of the best. If a student talks about "how a space vehicle maneuvers" or "why sports are so much fun," you can begin to identify appropriate subject matter. To enhance the quality of your information about student interests, you should ask questions and observe students at work and at play. Tyler (1974) has suggested that as we try to offer choices based on interests, students will learn to engage in activities they see as appropriate while ruling out those which are not. She contends that the ruling out may be a more important aspect of the development process than the selecting. Strong (1958) claims we can sketch or outline individuality when we ask two questions: (1) What can the student do? (2) What does the student want to do?

We are concerned with the motivating factors in the individual and in the environment which contribute to learning. As teachers we should attempt to meld these successfully by capitalizing on the existing motivation of students and by providing materials and methodologies which will stimulate new interests. For instance, we can make sure that curriculum materials are meaningful, vary the formats of lessons and style of presentation, encourage the use of different senses during lessons, and ask timely questions to sustain curiosity. Frymier (1985) presents a comprehensive view of motivating factors, including a sense of the teacher as a person. He maintains that a teacher who is committed, enthusiastic, and motivated learns to become a more effective facilitator in helping students "learn to want to learn."

Interest inventories are useful instruments for identifying the direction in which an individual is moving or would like to move. The best-known, the Kuder General Interest Survey (published by Science Research Associates [SRA]), and similar instruments are closely tied to occupational criteria and are most useful at the middle and secondary levels. The results of these surveys help to predict choices an individual is apt to make based on patterns of past choices. Informal interest surveys can be used with elementary and middle school children. These teacher-made inventories are practical means for beginning to understand what interests students and what they would rather avoid. In addition, teachers can build choice into their daily programs by allowing students to select from a range of learning activities.

Practice Activity

Study the two samples of classroom interest inventories in Box 1 on the following page. Try them out with your class. Depending on the age, grade, and the reading and writing ability of your students, the items can be completed orally or in writing. You can and probably will want to add questions and items tailored to your students and subject matter.

Cooperative Grouping in Classrooms

Meeting the needs of each individual does not mean that every student has an individualized lesson plan or must spend his or her time engaged in learning activities alone. While learners could engage in a highly individualized curriculum such as PLAN, a computer-managed system which is marketed by the Westinghouse Corporation, most school divisions, schools, and teachers have neither the resources nor the desire to prescribe instruction for individuals as fully and completely as would a computer-based curriculum. In effective classrooms there is a reasonable mix of individual and group activities.

A substantial body of research evidence is accumulating which suggests that teachers can encourage learners to work with one another in productive, cooperative groups and still protect, perhaps even enhance, the integrity of a learner's individuality. Teachers who are successful at encouraging cooperation and preserving individuality do so by performing a variety of activities, such as

1. specifying learners' objectives both for learning and for cooperating;

2. making decisions about the size of working groups;

Box 1
Sample Classroom Interest Inventories

1a. If *you* could decide what you would study in school next week, what would you choose? Why? What would you definitely *not* include? ____________

____

b. If you could magically visit any person from now or from the past, whom would you choose to visit? ____________

____

c. If you were hired to write a new TV show, what would it be about? Who would star in it? Would *you* be in it? ____________

____

d. If you woke up one day and found you had superhuman powers, what would you do? ____________

____

e. If you could somehow become a super-athlete overnight, what would your sport be? What would you do as a super-athlete? ____________

____

2a. I think reading ______________________________.

b. I wish I could ______________________________.

c. Someday I ______________________________.

d. I wish my teacher ______________________________.

Note: Adapted from Gillet & Temple, 1982.

3. assigning students to groups (preferably heterogeneous by member ability);

4. arranging the room so that group members can communicate with each other and with the teacher;

5. planning for the use of materials so as to increase chances for cooperation (e.g., giving one copy of directions to a group or giving different materials that require synthesis to various people);

6. assigning roles for group members;

7. explaining tasks and criteria for success; and

8. explaining rules for behavior in groups.

Teachers who use cooperative grouping also monitor group interactions, often in rather formal ways, and intervene to provide help with the task and to facilitate cooperation (Johnson & Johnson, 1975).

If you were to encourage individuals to cooperate on a task, you might think it wise to overlook differences in performance within the group--in a sense, to avoid differentiating among group members' outcomes. If the group is working on a cognitive task, however, this strategy would not be probable. From a review of the research on cooperative grouping and cognitive achievement, Slavin (1983) argues that cooperation is more effective when group rewards are provided based on group members' achievement and when members of such groups are held individually accountable for their performances. It appears that grouping for cooperative learning may be most important for what it can contribute to a student's motivation. When students work together to achieve a group goal, they have opportunities to create certain expectations for one another's behavior, or norms for behavior, and these, in turn, increase motivation to achieve and help each other (Slavin, 1983). In addition, encouraging individuals of different ethnic groups to work together may promote cross-ethnic relationships among students (Johnson, Johnson, Tiffany, & Zaidman, 1984).

Procedures have been developed for students to help each other during seatwork in a variety of subject areas. In some cases, students prepare a common product such as answers to a drill sheet and in other situations students study cooperatively in order to prepare for later competition (Slavin, 1980). Benefit seems to derive from the social value of working in groups and the cognitive value gained from explaining the material to someone and/or having it explained.

One such strategy which has been successful is the "jigsaw method" (Blaney, 1978). It is based on fitting pieces of a lesson together like the pieces of a jigsaw puzzle. In the jigsaw approach, students are assigned to teams of equal number. Members of different teams who have the same section form "expert groups" and study together. For example, a biography might be broken down into early life, major setbacks, influences, and so forth. Each then returns to his or her original team and teaches the section to the team. Often, the students are quizzed on the entire set of material. Success depends upon paying close attention to each other's sections; consequently, students are motivated to support and to show interest in each other's work.

To achieve a precise match between learner characteristics and curriculum will require you to make a number of separate decisions. As you expand your professional repertoire, you will be able to achieve the delicate balance of knowing when to group, when to individualize, and how to incorporate materials and methods that help each child work toward realizing his or her potential.

How might you provide for a wide range of reading levels, developmental levels, interests, and learning styles in classroom instruction? What are some ways to differentiate tasks and assignments and use cooperative learning? To explore the possibilities, let's set a scenario:

You have had your social studies class engaged in a study of politics at the local, state, or national level. You want the students to expand their knowledge of political parties. Here are some suggestions to help you make sure everyone has an opportunity to participate and learn.

1. Record or have a student record student questions during the lesson. Use these questions and others as a guide to search for information.

2. Elicit possible sources of information from the group: encyclopedias, reference books, classroom texts, television, people, and so forth.

3. Make assignments based on the strengths of your students. For example, some less able readers could be assigned to interview parents, friends, local politicians, and so on; some proficient readers could be assigned the "library" work; several others could be assigned to watch TV news programs and listen to radio for any information relevant to the topic. You could be more specific in delineating tasks or have groups go through current radio and TV schedules to decide among themselves the newscasts for which each would be responsible.

4. Encourage conversation as a means of gaining information from everyone and suggest that all use the media as general sources.

5. Plan an in-class discussion to center around conversation circles that include students assigned to various sources. This would provide opportunities for successful contribution from all students.

6. Expect each circle to formulate one unanswered question to place before the whole class when the lesson continues in the next session. (Adapted from Noar, 1972)

An in-class activity for language arts, English, or foreign language at an intermediate level could employ a similar approach of building on students' strengths. Consider the following example and think about adapting some of these suggestions to your classroom:

You have been teaching vocabulary development and sentence structure. You want to see how well each student is understanding these concepts. You can set expectations, differentiate tasks, and provide opportunities for successful oral and written participation.

1. Question the group orally on the kinds of sentences (simple, compound, etc.).

2. Have students write in ten minutes as many sentences as they can and have them use a different number of words in each sentence.

3. Circulate and monitor while they write.

4. Encourage students to write sentences on the board. Select those who will produce a variety of sentences from simple to compound-complex.

5. While students write on the board, call upon many individuals to read their sentences. Ask each to select his or her best, evaluating each effort with constructive enthusiasm.

6. Correct the work at the board by having individuals read, identify, and suggest corrections.

Competence in teaching stems from many variables, two of the more important being the capacity to reach out to differing students and to create learning environments which permit them to demonstrate success. Your own success as a teacher will depend on how well you use a variety of approaches, effectively matching them to your students' needs and abilities.

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LEARNER SELF—CONCEPT

STUDENT PROGRESS REPORT

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DEFINITION OF COMPETENCY

The competent teacher knows that learners' achievement may be enhanced by improving their self-concepts, and that their self-concepts are enhanced if teachers' expectations are high and if teachers show appreciation of the personal worth of learners.

PURPOSE

The purpose of this chapter is to help you understand the importance of enhancing a learner's self-concept. Emphasis will be placed on the contribution that teachers make to the development of positive student self-concept. Specific teacher actions which support positive self-assessment will be explored, such as presenting challenging lessons, encouraging learners success when dealing with difficult questions, praising difficult accomplishments, and responding appropriately to pupil errors. I will also discuss the importance of developing appreciation of students' cultural heritages.

BACKGROUND KNOWLEDGE

"You're my favorite teacher!" This acclamation is highly prized whenever it comes our way. It is particularly valued when the judgment has stood the test of time. Which of your teachers stands out in your mind? Think about your own school experiences and recall a teacher you'd like to thank. What made that individual so special? Was there a particular quality, a positive attitude, a belief in you that this person communicated?

There has been a "Great Debate" among educators for years about the characteristics of effective teachers. Is the ability to facilitate learning an innate talent or can teachers be trained? Can we describe objectively what we mean when we talk about an effective teacher? What do effective teachers do? How can we identify them? How can we imitate their behaviors?

Those interested in defining the attributes of effective teachers have been looking in classrooms, recording what they see, and communicating their findings to others. Often their findings support what common sense would suggest. For instance, when teachers let students know they believe in them and expect them to do well, students begin to believe in themselves and do their best to achieve success (Berliner, 1984; Hosford, 1984).

The competent teacher is aware of this and knows that learner self-concept is enhanced when teacher expectations are high and when the teacher shows appreciation of students' personal worth. Teachers foster development of learner self-concept in a variety of ways. Challenging lessons communicate to learners the expectation they can do work that is meaningful and of high quality. When a learner has difficulty answering correctly, the teacher supports the student's efforts by encouraging and prompting. Teachers who are aware of their role in the development of self-concepts in learners also praise correct performance of difficult tasks and correct answers to difficult questions.

But what is self-concept? Why is it so important to learners? How does it develop? Can it readily be changed once it is formed? If so, how? These and other related questions have guided educational and psychological researchers as well as classroom teachers for years. Like most areas of knowledge about human development, that of self-concept is far from being fully explored. There is some strong evidence, however, for the contention that teachers need to account for self-concept in their interactions with students.

Self-concept can be described as "the mental image one has of oneself." This image, of course, may be composed of a host of attributes. For instance, it is rather difficult in a highly visual culture like ours not to think of one's physical appearance as playing some part in his or her self-concept. If you doubt this all you need do is visit a weekly meeting of Weight Watchers or spend half an hour watching a television show in which physically beautiful people become rich and famous and loved with amazingly little effort.

There are, of course, other attributes that define our images of ourselves: wit, charm, religiousness, ethnicity, sociability, and success, to mention but a few. Preadolescents and adolescents often tend to see themselves in absolute terms, that is, they think of themselves as either athletic or not athletic, smart or not smart, good or not good, and so forth. Among very young children, these assessments are seen neither as points on a continuum nor as characteristics that are balanced by strengths or weaknesses in other areas. As children grow, they begin to make more distinctions and to think of themselves in more complex ways. This development can be supported with the guidance of teachers.

Self-concept is often defined not so much in terms of what we think of ourselves as in terms of what we think others think of us. Let's try these mental and semantic gymnastics another way: Self-concept works like a mirror. We look at other people to see ourselves. If we think they think we are valuable, then we think we are valuable. If we think they think we are deficient, then we think we are deficient. Obviously, this definition has direct implications for teachers. Teachers who send clear, positive messages to their students are likely to enhance their self-concepts, while teachers who berate their students may diminish their sense of self-worth. In fact, Sears (1963) found the effect of public criticism by teachers to be damaging to students' self-concepts, particularly to girls in the middle grades. Teachers should therefore be aware of the messages they are sending to their students. Teachers communicate their attitudes about their students' personal worth when they, for example, express their expectations for achievement, respond to their students' work, and react to individual differences among their students. The effects of these kinds of situations on self-concept are described in the remaining sections of this chapter.

High Expectations

One characteristic that distinguishes teachers of students who make substantial gains from those whose students do not make substantial gains is the belief of the effective teachers that students can and will learn (Good & Brophy, 1976). In looking for an explanation for this phenomenon, Brophy and Good suggest teacher expectations are only the beginninng of a chain of events. High expectations foreshadow teacher actions that will support the success of learners. Teachers often create a warmer affective climate for students who they perceive to be bright (Cooper, 1979; Cooper & Tom, 1984). Similarly, low expectations lead to classroom interactions that are unlikely to facilitate learning. Teachers' responses, then, are in part a product of their expectations. If we expect students to succeed, we will give them every opportunity to do so. If we have low expectations, we may try to protect students from failure by calling on them less frequently and cutting short the amount of time we would usually wait for an answer (Good & Brophy, 1978).

Teachers can use their expectations to support student success. Often the need for teacher support in this area is associated with children who are less capable. In Giftedness, Conflict and Underachievement, Joanne Rand Whitmore (1980) considers the role of self-concept at length when discussing the underachieving gifted student:

> Studies comparing the characteristics of the achiever with those of the underachiever indicate that negative self-concepts are the central trait distinguishing underachievers from those who are achieving commensurate with their ability. (p. 278)

For all learners--not just gifted ones--there is a connection between negative self-concept and failure. Which comes first is not clear.

The message teachers communicate when they set high expectations is that learners are capable. This message, in turn, supports a positive self-assessment on the part of students. If an expectation is so high that a learner is not likely to succeed, the impact of the message can be reversed, that is, it may reinforce the learner's insecurities and diminish his or her sense of self-worth. The trick, if there can be said to be one, is to set learning objectives that are both challenging and attainable. Such objectives will increase the likelihood of success while affirming a positive self-concept.

Let's examine a hypothetical situation to see the results of high expectations in action. It is 8:15 a.m.; the school day doesn't officially begin until 8:30. As you walk through the hallway you notice many children talking, engaging in horseplay, and wandering aimlessly in the general direction of their classrooms. As you enter Mrs. Cashin's sixth grade you sense a difference in the atmosphere. The generalized energy of children entering school has become directed. Students are talking, smiling, getting started on their school day, but there is a qualitative difference in the tone of their early morning activity.

As you wander around the room you see John recording the growth of the plants in his science experiment and Susan illustrating the sequence of events of a book she finished reading last night. Other students are similarly engaged. The predominant activity seems to be journal writing. You're impressed!

You return to visit with Mrs. Cashin later in the day, after the children have been dismissed. Mrs. Cashin is flattered by the compliment you offer with your question: "How do you do it?" She responds, "Actually the answer is that I don't do it. Instead, I expect the children to put forth their best efforts, and they do. Not that it's effortless on my part. On the contrary, I help by defining those expectations. The key is challenging each student with a rewarding and accomplishable goal."

She continues: "Take creative writing as an example. Before you stopped by my room this afternoon I was evaluating student writing portfolios. For each member of the class, there is an individual record card which I use to note writing skills as they are acquired. It also helps me suggest to students the skills which they should concentrate on in their current writing."

Mrs. Cashin's approach supports the academic progress of each student. The learning objectives she defines are both challenging and attainable, and she has shown a respect for the abilities of each of her students. In short, Judy Cashin is using high expectations to communicate her belief in her students.

The research that describes the characteristics of effective schools also recognizes the role of high expectations on student achievement (Tursman, 1981). It has been shown that students tend to perform better when teachers communicate a belief in the abilities of students by planning challenging lessons.

Learners receive an assessment message from you based on the degree of difficulty of the tasks assigned. Teachers who have high and attainable expectations are showing a knowledge of and a respect for their students. This message reinforces feelings of personal worth and a positive self-concept.

Practice Activities

1. Look over your class list. Identify a student for whom you have held low expectations. How did you arrive at this judgment? Perhaps past teachers have found the student to be lacking, or test scores indicate he or she is less capable than others in the class. Whatever the reasons, most teachers can readily identify one or more students for whom their expectations are minimal.

2. Now list the strengths of this student, including his or her interests. Look at a specific content area and define this student's current level of achievement. Plan a conference with this student during which you will help him or her identify specific strengths and goals. Identify one challenging but attainable goal (you might want to do this

cooperatively with the student). Tell the student he or she can accomplish the goal--you will be there to help if necessary.

3. Keep a journal tracking the student's progress. Notice the frequency with which you give this student opportunities to respond in class. Record the number of times the student volunteers. Notice his or her interactions with other students. Do these actions indicate an increase (or a decrease or no-change) in self-confidence?

Praise

Our expectations are evident in the way we respond to students. Let's examine the attributes of one influential category of teacher response: praise.

Verbal praise is an effective device when a teacher's goal is to reinforce newly acquired behavior. The effects of praise on students are greatest in the first grade or two of school. When students are already motivated to perform in certain ways, however, teacher praise can have the undesirable effect of replacing intrinsic motivation with extrinsic motivation (Good & Brophy, 1978). In other words, students may begin to work for teacher praise when they were previously motivated to demonstrate the desired behavior on their own. Brophy (1983) sees praise as most effective when used to build intrinsic motivation in students.

Individuals define praise differently. Although many people would judge any positive remark as praise, perhaps the most useful way of assessing the value of a seemingly positive remark is to consider it from the perspective of the person receiving the message. Teacher statements that are very general or are made frequently may have little impact on students. More effective praise, especially after the early years of school, is that which is "done well" rather than frequently (Brophy, 1980).

What does it mean for praise to be done well? Box 1 on the following page summarizes the attributes of effective praise. As you read it consider whether or

Box 1
Characteristics of Effective Praise

Effective praise . . .

- is given contingently.
- explains why some behavior is praiseworthy.
- is credible, spontaneous, and draws attention to the student.
- rewards performance and/or effort.
- suggests why a student's accomplishment is important and provides information about his or her competence.
- helps students appreciate their task-related behavior and their thinking about problem solving.
- describes students' present accomplishments as they relate to past accomplishments.
- is given because the accomplishment was difficult for the particular student.
- attributes success to effort and ability of students, implying similar successes can be expected in the future.
- suggests that students do well because they want to do so.
- focuses students' attention on their own task-relevant behavior.
- helps students appreciate their behavior after task is completed.

Note: Adapted from Brophy, 1981, pp. 5-32.

not the positive verbal comments you offer students are characteristically effective or ineffective.

If some praise is good, is more better? Too much praise can be detrimental. Meyer and colleagues (Meyer, Bachmann, Biermann, Hempelmann, Ploger, & Spiller, 1979) found that "overpraising" high school students implied that they had low ability. High teacher expectations were interpreted as signs of high ability in the students for whom they were held.

Practice Activity

There are many situations that could be used to illustrate the effects of praise on students. Because your colleague, Bertram Smith, has asked you to visit his classroom, let's look at the effects of praise on his students.

Bertram is one of those people you can't help but like. He is a kind and gentle person who sees the good in everyone. You and he met at the orientation meeting for new teachers in your school division. Bert has a high level of commitment to the education of children. He has always wanted to teach. He is undaunted in his enthusiasm, although you did detect some concern in his voice when he asked you to visit his class and give him feedback. He senses a problem and is looking for advice. Let's look at Bert's classroom.

The ninth grade social studies is working in groups on projects that they will present at the end of the week. As you enter, Bertram looks up and smiles your way but does not interrupt his work with the students. He goes from group to group, giving them encouragement.

"Nice job!"

"Good going!"

"Hey you guys have got it together!"

You also note that the students respond with a pleasant, if passive, "Thanks, Mr. Smith."

Bertram is giving his students "positive feedback" but senses that something is missing. He is relying on your observation to give him some insights into the situation.

Take a minute and jot down the points you will make when you share your observations with Bert. What is he doing well? What might he do differently?

Responses to Practice Activity

Did your feedback to Bert include the following points?

1. There seems to be a positive atmosphere. The students are engaged in their work and obviously like and respect their teacher.

2. Bert's feedback to students, although positive, is very general in nature.

3. More specific praise would give the students a clearer sense of what is praiseworthy in Mr. Smith's judgment.

4. Is the praise linked with an appropriate goal or past accomplishment of the student(s) involved? Do students know specifically what is meant by "nice" or "good" or "together?"

Practice Activity

Now it's your turn. Perhaps you would like to have a colleague observe your classroom conversations with students or you might use a tape recorder. However you choose to gather the information, analyze the praise you give students. Define the attributes of the praise you give now and set goals for improving the quality of that praise. Set a time for reassessment so that you can see if your plan is working.

Appropriate Feedback

How does one protect or enhance a learner's self-concept when the learner is having difficulty? Unfortunately, the research shows that low achievers receive less supportive feedback than their classmates (Cooper, 1979). In addition, it was noted in one study that teachers gave higher achievers a longer period of time to answer (Rowe, 1969). Can you relate to the frustration of students who, having been asked a question, lose the opportunity to answer just as they are "getting it?" Having that experience repeatedly is likely to lead to a lack of effort. Why invest in a process that will probably end in failure?

There are several things which you as a teacher can do to avoid such frustrating experiences. Consciously call on all of the students in your class during an instructional period. Be sure to give sufficient time for students to formulate their answers. If you have decided that the student will not be able to answer without help, ask another question or rephrase your first one. Structure the situation so that the student can succeed. It is important to encourage the learner to persevere. The effective teacher defines what learners know and helps them identify what they need to know in order to succeed.

Practice Activities

You realize the importance of demonstrating concern for students. You also know that the academic growth of your students will have a great impact on how you are perceived by your colleagues and supervisors. How can you improve your impact in these areas?

1. Let's suppose that you are a first grade teacher and you've just asked the students to add 5 and 2. Johnny raises his hand and, in response to your recognition, he confidently states that 5 plus 2 equals 8. How do you respond so that Johnny's sense of self worth is not diminished but at the same time support his development in math?

a. "What is the sum of 5 and 3?"

b. "That's close!"

c. "Think about it more carefully."

d. "8 is the sum of 5 and 3. I asked for the sum of 5 (draws five objects on the chalkboard) and 2 (draws 2 more objects)."

2. Randy is usually reserved and unsure of his contributions to class discussions. Today you are discussing the subtraction of whole numbers. The problem stated is the subtraction of 12 from 10. Randy's face lights up. He's sure of this one. You can't subtract a larger number from a smaller one and Randy tells you so. How do you respond to this?

a. "You believe that it can't be done, Randy."

b. "Actually there is a way and that's what we're going to talk about today."

c. Ask Randy to draw a numberline beginning it at the midpoint of the chalkboard. Have him label the beginning of this line with a number (0). Ask him to tell you what comes before zero.

Responses to Practice Activities

1. a. This response gives Johnny the opportunity to discover his own error and make a correction based on his own thinking. He knows that "8" can't answer both addition problems.

b. This response avoids criticism but fails to communicate your belief in the child's ability to solve the problem.

c. This response might indicate that you think the child is capable, just careless, but you've missed an opportunity to structure a successful learning experience for him.

d. In this response you have told Johnny the question that corresponds to his answer and have then restated your original question in a way that increases the probability that Johnny will succeed.

2. a. This response recognizes the student, Randy, and is a way of clarifying his response. It may lead the student to further develop his answer or share the thought process through which he arrived at the answer. Too often this type of response from the teacher is given and received as a neutral recognition of the student's response. It may communicate low expectations because it simply accepts without probing further.

b. This provides a smooth lead into the lesson but may do so at the expense of the student's self-esteem. More recognition for the logical basis of Randy's conclusion, given the information he has, would support Randy's self-concept and lead into today's lesson. Choice "b" could be restated as, "With the information we have discussed in class so far, it does seem that you can't substract a larger number from a smaller one. Actually, there is a way and that is what we are going to talk about today."

c. The second response would probably be a more supportive one for Randy than this one. Drawing a numberline might well be the beginning of your presentation of new information. The student you choose for this might be Randy or you might involve someone else at this point. Be sure to return to Randy so that he has an opportunity to answer correctly during the lesson. This will let him know that you expect him to meet the challenge presented in this math lesson.

Cultural Heritage

Classrooms are rich and varied in large part because of differences among students with whom we deal. It is possible that all of the thought and effort you invest in developing strategies to support the development of positive self-concepts could be undermined if the cultural backgrounds of the learners are not considered. Ignoring cultural heritage can send a not-so-subtle message that cultural diversity is unappreciated. The chapter on INDIVIDUAL DIFFERENCES also discusses the concept of cultural differences. In this chapter we will examine the impact of cultural differences on the development of self-concept.

When teachers are ignorant of students' cultural backgrounds, they can misinterpret students' behaviors. For example, we typically expect children to maintain eye contact when we speak with them. Lack of eye contact is often assumed to mean lack of interest, inattention, or defiance. For individuals from certain cultural backgrounds, however, lack of eye contact can signify respect and/or deference (Garcia, 1982).

It is possible that the teacher who is unaware of the cultural backgrounds of his or her students will compound the difficulties that parents from nonmainstream ethnic groups sometimes have with the public school system. Examples of the effect of cultural background on parents' reaction to a school situation is described in the following paragraphs.

Beginning school is a time of great importance for parent and child alike. School success is often viewed as the precursor to success in life. Early childhood educators are well aware of the high level of concern with which both parents and children approach school. These teachers are also trained in a tradition that values play as an integral part of the learning of young children. If, for example, parents approach their child's teacher with the concern that their child is losing valuable school time by engaging in "play," that teacher is likely to discuss with them the benefits of "play" in the early childhood classroom. If the parents are from the cultural mainstream of America, they will probably leave the conference satisfied. The situation is complicated, however, when the parents are from another culture. Some Chinese, for example, may see play as frivolous (Bancroft, 1975). They may believe children should be working. It is difficult for some Chinese parents to see play as an important part of the educational system. The teacher may miss the point entirely by assuming the concern of the nonmainstream parent is the same as that voiced by the parents from the cultural mainstream.

As students progress through school, our expectations of them and the ways in which we organize their experiences change. Many of these changes bring opportunities for a cultural clash of values. For instance, at some point most physical education departments require students to shower after their gym class. If the facilities for showering lack privacy, this requirement might conflict with the cultural or religious values of some students (Bancroft, 1975). It is possible to miss completely the message in students' behaviors. Would you interpret a student's avoiding a group shower as a blatent affront to your authority? If you do so without looking for motives behind the behavior, you might well achieve comformity to your rules while missing an opportunity to create an environment of trust and respect.

There are many assumptions underlying education in America. As educators, we need to be aware of these assumptions and to be alert to instances in which they might present barriers to students. Christine Bennett (1979) suggests two important areas for teachers to examine when considering learners' cultural backgrounds: The learner's preferred modes of communication (verbal and nonverbal) and of participation.

Have you ever been a member of an audience that responded to a performance in a way that was foreign to you or even rude? Bennett related the following situation to illustrate the importance of knowing the preferred participation style of a "microculture."

In one school, the "Panther Prowl" is an annual homecoming assembly. One year a group of black musicians began to perform, and black students responded enthusiastically with clapping, dancing, and singing. White students, who had been taught to show their appreciation for entertainers by listening quietly and applauding at the end of a performance, found the response of their schoolmates to be rude. They demanded quiet, and many left. Black students perceived the passive response of the white students to be an affront to the performers. Lack of understanding and quick judgments were the precursors to several interracial fights later that evening on the school grounds (Bennett, 1979).

These examples suggest the need for educators to reach beyond the comfort zone of mainstream cultural values and mediate the assumptions which might interfere with the education of children from nonmainstream cultures. Bancroft (1975) encourages you to do so by asking yourself the following questions about such children:

1. What are the occupational expectations of students?

2. What form does discipline take? What adjustments are made if the person discipling and the individual being disciplined are of the same sex or the opposite sex?

3. What are the accepted forms of address for persons in authority?

4. What are the major symbols and rituals?

5. How do people in this microculture express feelings?

6. How are loud speech, play, silence, time, work, and leisure perceived?

7. How is joking done in this culture?

8. What are the norms for behavior between the sexes in the microculture?

We all have a personal sense of identity, which includes our cultural heritage. As a nation we have benefited from the contributions of many diverse cultures. For each microculture in society there is a time of adjustment, of finding a place in the larger culture. These adjustments are often traumatic for all involved. As educators our function is not to convince people to agree with our personal interpretations of American ideals but to affirm the place of many cultures in our American fabric.

Practice Activity

Cultural roots are rich sources of motivation for students. Plan an instructional segment through which members of your class will be able to learn about their own heritages and those of their classmates. This might be a social studies unit, a writing assignment, or a unit in literature. You might include the areas mentioned in Bancroft's questions. You might also encourage students to use a variety of modes of expression--plays, displays, and the like.

The cultural diversity reflected in your school community could form the basis of a unit of study. Emphasize the contributions of various ethnic groups to the community. Extend the study to other groups and to our national identity.

Personal Worth

We have discussed a number of things you can do to support a positive self-concept. But there are also ways of organizing classroom interactions among students that encourage positive feelings in learners about themselves and about their abilities (Covington, 1984). Covington suggests using noncompetitive strategies, such as the cooperative learning environments described by Johnson and Johnson (1975). These have been shown to support mutual concern among students. The program assigns learners of mixed ability levels into work teams. The barrier that usually exists between students who learn more slowly and their more adept classmates appears to be removed when students work in a cooperative environment. A key characteristic of these environments is their emphasis on team effort while maintaining individual responsibilities. It is possible that the positive effects stem from the affirmation of self reflected by others.

Practice Activities

The establishment of cooperative learning environments requires a period of planning and skill development before implementation. (Specific suggestions for establishing cooperative learning environments are discussed in the chapter on INDIVIDUAL DIFFERENCES.) Following are several techniques you can incorporate in your classroom tomorrow. They will emphasize the value of each individual in your class.

1. Incorporate a Student of the Week recognition in your classroom. Generate ideas with the students that would become part of this recognition. Possibilities include a listing by classmates of strengths of the student, interviewing the student, or writing a biography of the student.

2. Look at Canfield and Wells' (1976) *100 Ways to Enhance Self-Concept in the Classroom*. Select a

strategy that is appropriate for the learners in your classroom. Here are some of the things they suggest:

a. Positive Support Techniques:

- Positive feedback--student are given an opportunity to recognize the contributions of others after a discussion. This experience can be structured by providing a "stem" for the feedback, i.e., "Our group was better because you. . ."
- Positive support--students are asked to identify five things that another person can do that give them a good feeling about themselves. (p. 111)

b. Who's Who:

- Several students collect biographical data and create a book, Who's Who, describing the special attributes, accomplishments, hobbies, and interest of members of the class. Books may be duplicated and a copy given to each student. (p. 138)

c. Quickies:

- Do well--students identify something they do well and enjoy doing.
- Self-Worth--students are asked to write about something they can do to help others feel valuable.
- "Proud-Of" Bulletin Boards--a place is reserved for the display of work, hobbies, ambitions of class members. (p.86)

3. For long-term development, form a study group with other staff members who are interested in building self-concept in students. The members of this group might be fellow teachers, other members of the school

staff, and parents. Identify a person in your community (guidance counselor, educator, consultant, etc.) and arrange to have that person work with your group. Possible programs which can facilitate your goal are Systematic Training for Effective Parenting (STEP) (Dinkmeyer & McKay, 1976), The Human Development Program (Palomares, Ball, & Bissell, undated), and Teacher Effectiveness Training (TET) (Gordon, 1974). Haim Ginott's book, Teacher and Child (Ginott, 1972), may also be helpful.

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AFFECTIVE CLIMATE

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DEFINITION OF COMPETENCY

The competent teacher knows that learning occurs more readily in a classroom environment that is nonpunitive and accepting than in one that is hostile or threatening. Obviously, teachers do more than teach subject matter; they teach people. Thus, teachers need to understand human motivations and behavior--both their own and those of their students. They need to use this knowledge to create the best learning environment possible. The affective, or emotional, climate of the classroom is an important aspect of the learning environment.

PURPOSE

Our emotions, such as anger, defiance, joy, enthusiasm, excitement, and satisfaction, influence how we teach and how we learn. Research has shown that learning occurs more readily in a classroom environment that is nonpunitive and accepting. It seems reasonable to assume that more effective teaching occurs in such environments as well. It also seems reasonable to assume that a positive affective climate makes teaching and learning more satisfactory human experiences. The purpose of this chapter is therefore to explore strategies for creating an appropriate affective climate, thereby fostering more effective, and satisfying, teaching and learning.

What does this mean for you, the beginning teacher? It means you will be expected to:

1. avoid hostility and punitiveness and use alternative strategies to maintain an orderly learning environment;

2. show courtesy to and consideration for learners;

3. be accepting of learner behavior, drawing upon your knowledge of the principles of human growth and development, individual differences, and group dynamics to develop a variety of interaction strategies;

4. show knowledge of, interest in, and

appreciation of cultural differences and develop a strategy for building a classroom culture; and

5. adapt the physical environment to encourage learning and facilitate learning activities.

BACKGROUND KNOWLEDGE

According to Gagne and Briggs (1979),

> the teacher obviously needs to appreciate the importance of his [or her] role as a human model, if for no other reason than the large proportion of time the student spends in [the teacher's] presence. It is likely that those teachers the student later remembers as "good teachers" are the ones who have modeled positive attitudes. (p. 89)

We all have some ideas about what makes good teachers. Good teachers want to teach, and they like their students. They are active, enthusiastic, and interesting as well as competent. They communicate the idea that learning can be fun. Good teachers have acquired a variety of positive strategies by which they facilitate learning and maintain order. These strategies are built from a knowledge of their field, a knowledge of themselves, and a healthy dose of imagination.

Practice Activity

The day started out so well. You made it to school early, so you had time to review your lesson plans for the day and to think about the progress and problems of each of your students. The students arrive, and the school day begins. Things are running smoothly, and you are enjoying your work. You feel competent. About midmorning, one of your students starts to act up and disturb the class. You immediately ask her to stop. To your horror, she throws a temper tantrum right then and there. When she finally calms down, you are exhausted and the class is in an uproar. How can you possibly salvage this day?

Hostility and Punitiveness

What ever happened to the days of "spare the rod, spoil the child?" What teacher has not wanted to fall back on that old maxim when it has been one of THOSE days? Bite your tongue, sit on your hands, count to ten, or what have you--but don't do it!

Much affective experience in the class room tends to be negative, and negative emotional climates are just not functional. Teacher criticism, teacher or pupil negative affect, and pupil resistance correlate significantly with low achievement and low self-esteem. People achieve more in an environment that is emotionally warm, or at least one that is neutral. (Soar and Soar have shown that neutral climates may be as supportive of achievement as warm ones. [Soar, 1966, 1973; Soar & Soar, 1972, 1973, 1978].) The rod may serve if control is your primary concern, but it definitely does not work if your goal is higher achievement or improved self-concept. The challenge, then, is to develop and consistently use positive strategies to maintain an orderly learning environment. To stack the deck in your favor, these need to be worked out ahead of time.

The key is prevention. Getting off to a good start is invaluable (Emmer, Evertson, & Anderson, 1980; Emmer & Evertson, 1980; Evertson, Emmer, Clements, Samford, Worsham, and Williams, 1981). This takes careful preparation and organization. Classroom procedures and routines should be formally taught at the outset, and expectations should be precisely stated. Content, method of delivery, and pacing are extremely powerful tools for gaining and holding students' attention. Interested and motivated students are rarely behavior problems! Realistically, however, you cannot control all of the factors that affect each pupil's level of motivation and interest. For example, if Susie's parents are in the midst of a messy divorce or if Johnny did not have time to eat breakfast on a particular morning, you may very well find it difficult to hold their attention. On the whole, though, the more control you have over the factors within your range of responsibility, the fewer problems you should experience.

What can you do to create and maintain a good emotional climate for teaching and learning? There are three areas in which you have a great deal of power and flexibility. These are classroom management, personal management, and interpersonal relations management.

Classroom Management

A great deal of the literature and much of this text focus on classroom management. Some examples of classroom management techniques are

- holding students accountable (see chapters on ACCOUNTABILITY and QUESTIONING SkILL);
- modeling appropriate behaviors, praising appropriate behaviors, and reinforcing behaviors incompatible with desirable behaviors (see chapter on REINFORCEMENT);
- modifying the classroom environment (see the section on Physical Environment later in this chapter);
- using the time-out technique (isolating the disruptive student for a short period of time); and
- exhibiting "withitness" behaviors, showing you know what is going on in the classroom (see chapters on CLOSE SUPERVISION and AWARENESS).

One intriguing possibility for managing classrooms is to encourage group cohesiveness in order to foster group cooperation; a cooperative group is more likely to develop productive norms and to be more productive than one that is not cooperative (Johnson & Bany, 1970; Schmuck & Schmuck, 1979; Stanford, 1980; Wallen & Wallen, 1978;). Another technique is to establish a contingency contract or token economy (Kelley & Stokes, 1982; Kennedy, 1982). For instance, if the students fulfill certain academic requirements, then they receive a certain number of points. Once they have accumulated a specified number of points, they get a prize or a special priviledge (e.g., 10 points = 1 page of stickers, 15 points = extra 15 minutes of art.) If you want to use these techniques, you would, of course, need to study them carefully before Implementing them. The chapter on REINFORCEMENT describes these techniques in greater detail.

Personal Management

In contrast to classroom management, personal management receives relatively little attention. What makes you, the teacher, feel irrationally angry or successfully in control? How can you maintain a positive attitude? What can you do to create situations that are professionally and emotionally satisfying? It is just as important to develop a repertoire of personal management strategies as it is to have a repertoire of classroom management strategies.

Practice Activity

Now is a good time to take a personal inventory. Consider what your strengths and weaknesses are, what you like and do not like about teaching, where you would like to be in ten years, and so forth. One personal management strategy might be to eat a more nutritious breakfast and to take vitamins to prevent the "11:00 a.m. I-am-starving-I-hate-everybody blahs." Another personal strategy might involve recognizing that a certain person annoys you and that this interferes with your ability to teach the person. What can you do? You can concentrate on the positive--look for things you like and value in the person. Focus your attention on the bright side.

Impersonal Relations Management

Interaction with others is a critical aspect of a teacher's professional skills. A tremendous amount of time is spent interacting with students, parents, other teachers, and administrators. The crux of any and all interactions is communication, both verbal and nonverbal. We lecture, write, discuss, gesture, and so on. The point of all of this is to share messages. Effective teaching is built upon the design and delivery of effective message. Are certain types of communication more efficient and more accurate than other types? In the classroom, two-way communication (i.e., discussion) often seems to be more effective than one-way communication (i.e., lecture) because in two-way communication, students are allowed to ask questions that may help to clarify messages (Ward & Borgers, undated). In addition, two-way communication may foster a more positive attitude among students.

Listening and responding are key ingredients for good communication. It certainly is aggravating to ask someone a question only to receive either no reply or a totally unrelated one.

Ward and Borgers (undated) have identified five response styles:

o Evaluative. A response which indicates the responder has made a judgment of relative goodness, appropriateness, effectiveness, rightness. [The responder] has in some way implied what the speaker might or ought to do.

o Interpretive. A response which indicates the responder's intent is to teach, to impart meaning to the speaker, to show him [or her]. [The responder] has in some way implied what the speaker might or ought to think.

o Supportive. A response which indicates the responder's intent is to reassure, to reduce the speaker's intensity of feeling, to pacify. [The responder] has in some way implied that the speaker need not feel as he [or she] does.

- Probing. A response which indicates the responder's intent is to seek further information, provoke further discussion along a certain line, to query. [The responder] has in some way implied that the speaker ought to or might profitably develop or discuss a point further.

- Understanding. A response which indicates the responder's intent is . . . in effect to ask the speaker whether the responder understands correctly what the speaker is "saying," how it "strikes" the speaker, or how the speaker "sees" it. (p. 11)

Practice Activity

Examine your listening and response styles and answer the following:

1. Do you listen? Or is your mind preoccupied with the activities scheduled for 15 minutes from now?

2. How do you tend to respond, according to the styles described by Ward and Borger? All of these response types have their time and place. Do you use all of them? Or do you rely primarily on one or two?
3. How does the way you respond relate to your teaching goals and objectives?

4. Read the following statements and respond to each according to the five different response styles.

a. "School seems hopeless. Everyone does okay but me. Maybe something is wrong with me."

b. "I am really worried about this friend of mine. She is failing all of her courses; she wants to drop out of school and get a job. I'm afraid she will quit school and run away. I don't know what to do."

5. To practice listening skills in your classroom, ask one student to tell a story and another to try to repeat it as closely as possible.

Another ingredient of interpersonal relations management is the leading and facilitating of the group. The teacher is the leader of the class. Group dynamics or processes provide a wealth of resources for a teacher to use to enhance the emotional climate of the classroom. Each group is different, and each group can change. In analyzing your class as a group, you might ask some of the following questions:

- Is the group as a whole cooperative or competitive? Productive or apathetic? Involved or disinterested?
- Who is most influential and who is least?
- Whom do you influence the most? The least?
- Who influences you the most? The least?
- Is it a struggle for you to maintain leadership of the group?
- Who blocks the group?
- What are the norms of the group?
- How influential are the group norms?
- How do the norms influence how members think and how they feel about things?
- How do the norms influence how members act?
- Do the norms help or hinder group processes?

Ideally, the group is cooperative, involved, and productive. Anything you can do to encourage this will make your job easier and more successful. Strategies for accomplishing this include assigning a group project and stressing learning to work as a group. The final product of a group undertaking should be a symbol of group cooperation, for example, a mural for the hall or a piece of equipment for the school or local community center.

When you glue your professional knowledge and personal knowledge together with a bit of imagination, you will have a growing repertoire of resourceful strategies from which to draw to help you meet the situations that arise daily in teaching. For example, a certain kindergarten teacher who is concerned with teaching personal cleanliness makes a game of teaching her children to comb "'Wiggle' and 'Squiggle,' the silly salamanders," out of their hair every afternoon. Again, prevention is the key. Why jump into a full-blown power struggle if a little imagination might suffice instead!

Courtesy and Consideration

Courtesy and consideration are common sense components of a good affective climate. For example, learn and use your students' names and use polite forms of address. It makes such a big difference! Listen carefully and do not interrupt them. Try to be aware of any concerns or problems the learners might have and address those concerns or problems. Since there is only one of you, however, you might need to develop strategies to help you, for instance, to remember all of your students names or to sharpen your listening skills.

Learner Behavior

Many factors influence human behavior and thus the affective climate of a classroom. If you do not have a good rapport with a student, it may be due to such factors rather than to any particular antagonism on the child's part or on your own. Good teachers draw upon their knowledge of human growth and development and group dynamics to help them understand their students' behavior. For instance, individual students may behave differently if they are in a cohesive class than if they are in a less closely knit group. Age and stage of development also influence behavior. Very young learners, for example, have relatively short attention spans, tend to be physically active, and thrive in a highly nurturing environment, while older learners are usually able to work independently and for longer periods of time, often like to be allowed to learn in their own way, and are very concerned about peer acceptance.

Teachers should also be sensitive to signs of alienation in their students. Behaviors such as failure to cooperate, antagonism, inattention, and so forth suggest that a student is having difficulties committing to class life. In such cases, teachers should try to determine the source of alienation and to take remedial action. They should first determine if some aspect of the teaching-learning situation is leading to alienation. For example, they might pay particular attention to their students' responses to what they say, how they say it, and what gestures or other forms of nonverbal communication they use. If a particular student's alienation is persistent, the teacher should seek assistance from the school psychologist.

Practice Activity

1. You have just asked your second-grader to recite a poem. All you get is a hostile stare and dead silence. What do you do?

2. Compile a profile of your students typical behaviors. How do various children affect your teaching style?

Cultural Differences

Membership in a group implies that a person meets certain qualifications in order to belong, and that other persons do not meet those qualifications. Thus, there are boundaries that mark differences beween and among groups. In a culturally pluralistic society, cultural groups come in contact with each other and interact socially. That students and teachers from different cultures can and do interact positively in our nation's classrooms is testamony to the success of public education.

Culture is commonly taken to refer to racial or ethnic identity. However, every individual actually belongs to a variety of groups--racial, ethnic, economic, age, religious, occupational, and so forth. Membership in each of these groups affects our assumptions, values, and actions as well as our use of language and our reliance upon symbols. Thus, how we respond to our world, how we interact with others, and how we learn is shaped by our perceptions of physical and social realities.

In America, our lives have been particularly enriched by the contributions from many different groups. Our cultural diversity has been proven valuable and worthy of recognition and preservation. If you define culture in terms of the numerous groups to which individuals belong, then you realize that cultural diversity is a fact of life. To ignore it is to exacerbate a potential source of conflict; to utilize it is to tap a valuable resource.

Many groups exist in your classroom. You belong to the occupational group of "teachers," whereas the children in your class belong to the group of "students." You are a member of one age group, and they are members of another. Your students represent different racial, ethnic, economic, and religious groups. As Baptiste, Baptiste, and Gollnick (1980) have noted, "An individual's rights, privileges, and power are directly related to group membership." The teacher has a great deal of influence on the status of groups within the class. The impact of teacher expectations on student behavior is described in detail in the chapter on LEARNER SELF-CONCEPT. For example, if a teacher expects or otherwise implies that girls are good at arithmetic and that Asians cannot even add 2 + 2, then that teacher has taken differences based on group membership and used them to define special boundaries for members of each group. In the case of the Asian students in that teacher's class, this boundary becomes a barrier to positive class behavior and the boundary has negative affective consequences. This infringement of rights, privileges, and power leads to the rejection of class values and activities by members of the restricted group.

Knowing that your students are identified with many groups and that these memberships play a significant part in their lives, what can you do to create a positive affective environment? Teachers can build a "classroom culture," being extremely careful not to alienate any of the students due to differences based on their membership in other groups. The idea behind this suggestion is that the teacher and the students develop a sense of loyalty to the class as a group in which they are all functional members. The prevailing sentiment should be, "This is our class." Everybody should have a role in formulating the rules of this group (the class) without being penalized for being committed to the values, ideas, and behavior patterns learned in other groups. The purpose of this democratic process is to ensure supportive participation in the group.

Alienation and other negative feelings may result from acts that deny the value of groups to which a student belongs. Such acts can be committed both deliberately and unwittingly. Regardless of the motivation, however, challenging the beliefs, values, or customs that students have been taught to hold dear causes a major conflict to those students. They are forced to reject either their own beliefs or those of the class group. Differences are turned into barriers, and students are hurt.

The beauty of the notion of creating a classroom culture with few barriers caused by individual differences is that its goal is active participation by all members of the class group. Moreover, this participation proceeds in a way that is appropriate to each individual. This is a much different approach than teaching curriculum units about the heritage of different countries in the hope that students will understand the social demands of cultural pluralism. The cultural classroom approach encourages actual interactions between all members of the class and recognizes the dynamics of group life as a key element in maintaining a positive affective environment.

Practice Activities

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1. Analyze the group allegiances of the individual members of your class. Based on this analysis, develop a strategy to build a classroom culture.

In summary, using appropriate management techniques, being courteous and considerate, applying your knowledge about group dynamics and human growth and development to your classroom, and being sensitive to the cultural differences of your students will improve the affective climate of your classroom. In addition to employing these interpersonal techniques, you might also consider modifying the physical environment of your classroom, as described in the final section of this chapter.

Physical Environment

The importance of the physical classroom environment is noted in the Handbook of the Florida Performance Measurement System: (Coalition for the Development of a Performance Evaluation System, 1981):

> Classroom environment can affect student behavior and attitudes, and to the extent that these changes are positive, consistent, and enduring, they do have a chance to improve academic learning. Therefore, the educator should examine these variables and make attempts to enhance the physical context for his/her educational program. (p. 191)

There are two ways to approach the physical setting of the classroom. One way is to treat the physical environment as a static structure, allowing the room to control the physical context of the class.

The other way is to treat the environment as fluid and dynamic, putting yourself in control. If you realize that the structure is changeable, you will change it to meet the needs of the class. The following are some of the variables to consider when designing the physical environment.

Space

The classroom should be divided into distinct areas that are neatly equipped for specific activities. It should also facilitate monitoring of student activity. Make sure that in your room you can separate work areas from traffic areas, quiet areas from noisy areas, and so forth.

Seating

What is the best seating arrangement for a learning activity? The arrangement of seats should encourage the students to focus their attention and to participate--not to talk with friends or doodle. Totusek (1978) proposed that there are "action seats" in a classroom. Action seats tend to be those in the front and in the center of the room. Students who sit in these seats seem to participate more and achieve higher grades (Becker, Sommer, Bee, & Oxley, 1973; Koneya, 1976; Sommer, 1967). Teachers should therefore move about the room while teaching or monitoring to ensure that all students are actively involved in learning activities.

Color

Color plays a part in determining people's moods and attitudes. Due to the traditional design of schools and to budgetary constraints, room color is not as flexible as some other variables. Still, if your room is an awful, depressing color and you cannot paint it, why not cover it up? Pictures, wall hangings, and student art can add color and texture.

In sum, once you realize that you are not just stuck with a room the way it is, you can arrange the physical environment of your classroom to better suit you and your class.

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EVALUATION

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DEFINITION OF COMPETENCY

The competent teacher knows that learner progress is facilitated by instructional objectives that are known to the learners and that coincide with the objectives of evaluation. Competence in matching given instructional objectives with informal and formal evaluation contributes to the soundness of the teacher's decisions during the course of instruction.

PURPOSE

The purpose of this chapter is to help you understand the concept of evaluation and to assist you in coordinating formal and informal evaluation procedures with instructional objectives. Specifically, procedures for planning formal and informal evaluations while planning instruction will be discussed. I will suggest ways for you to ensure that these procedures are relevant and fair by, for example, checking for reliability and validity. I will also suggest strategies for asking appropriate and useful questions, observing learner's work, and checking learner's understanding regularly during instruction to evaluate progress. Finally, I will discuss the importance of informing learners about how their performance will be evaluated.

BACKGROUND KNOWLEDGE

Evaluation. Mere utterance of the word strikes terror in the hearts of administrators, teachers, students, and practically anyone facing the prospect of being observed or tested. Teachers plan with vigor in the hope of leaving supervisors with positive impressions about their performances with students. Administrators facing review check every nook and cranny of their schools to guarantee an impression of cleanliness and efficiency. And for students, what is often perceived as the impending doom of exams can trigger terror.

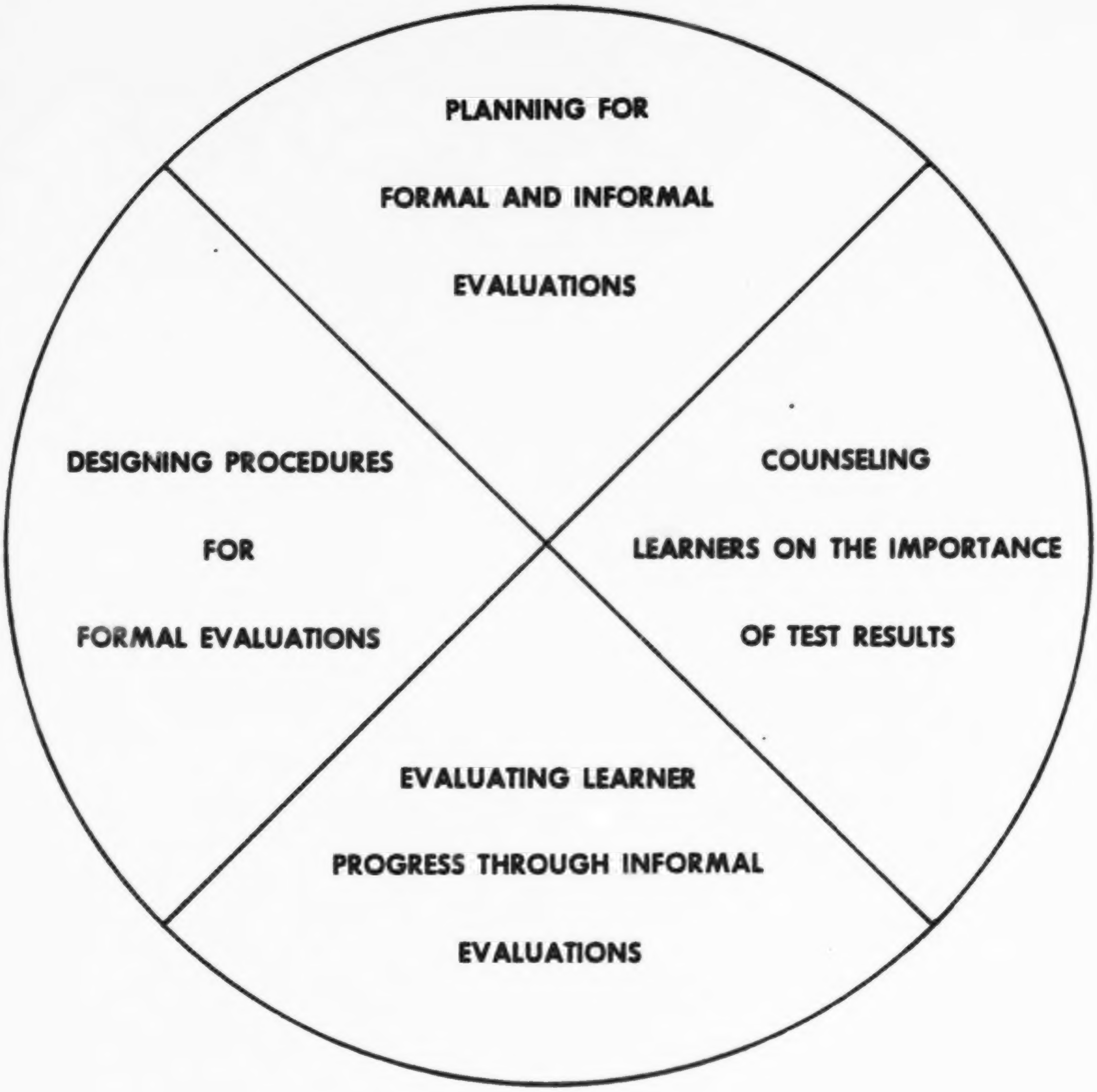
One wonders why. Why has evaluation become such an important part of our lives, and why do we go to such great lengths to judge our behaviors? Why do we place great importance on testing children, and then often use the information in relatively few ways? Why can't we use unobtrusive methods to collect information about the intellectual growth of children? The pros and cons of these issues continue to be debated. In the end, however, each teacher will be required to address these and related issues on a personal level. As a classroom teacher you will have to assess behaviors for which there are no structured evaluation procedures. You must be aware that paper-and-pencil tests provide information you will need in order to make judgments about learners, but that this information is partial at best. The following pages will attempt to provide some direction for you, the beginning teacher, in the hope of making the process of evaluation useful.

This chapter will argue that instructional planning and planning for evaluation must occur simultaneously, because choosing specific instructional content places value on that material and the decision to evaluate at some level is operationalized when content is selected.

While this chapter addresses a number of issues, the discussions should not be considered exhaustive. Many books on evaluation are available, and the reader is encouraged to examine further each of the topics mentioned here to gain a working knowledge of this important subject.

The four topics selected for discussion in this chapter--planning for evaluation, assigning procedures for formal evaluation, evaluating learner progress through informal evaluation, and counseling learners on the importance of test results--have been identified through research as logical, useful components of an evaluation. We might consider these concepts as individual parts of the whole, linked by necessity to one another in an interdependent process for making decisions about learners. As indicated in Figure 1 on the following page, the process is dependent on all four parts--omitting any one would make an evaluation incomplete.

Figure 1. Components of an Evaluation


PLANNING FOR
FORMAL AND INFORMAL
EVALUATIONS
DESIGNING PROCEDURES
FOR
FORMAL EVALUATIONS
COUNSELING
LEARNERS ON THE IMPORTANCE
OF TEST RESULTS
EVALUATING LEARNER
PROGRESS THROUGH INFORMAL
EVALUATIONS

Planning for Evaluation and Instruction

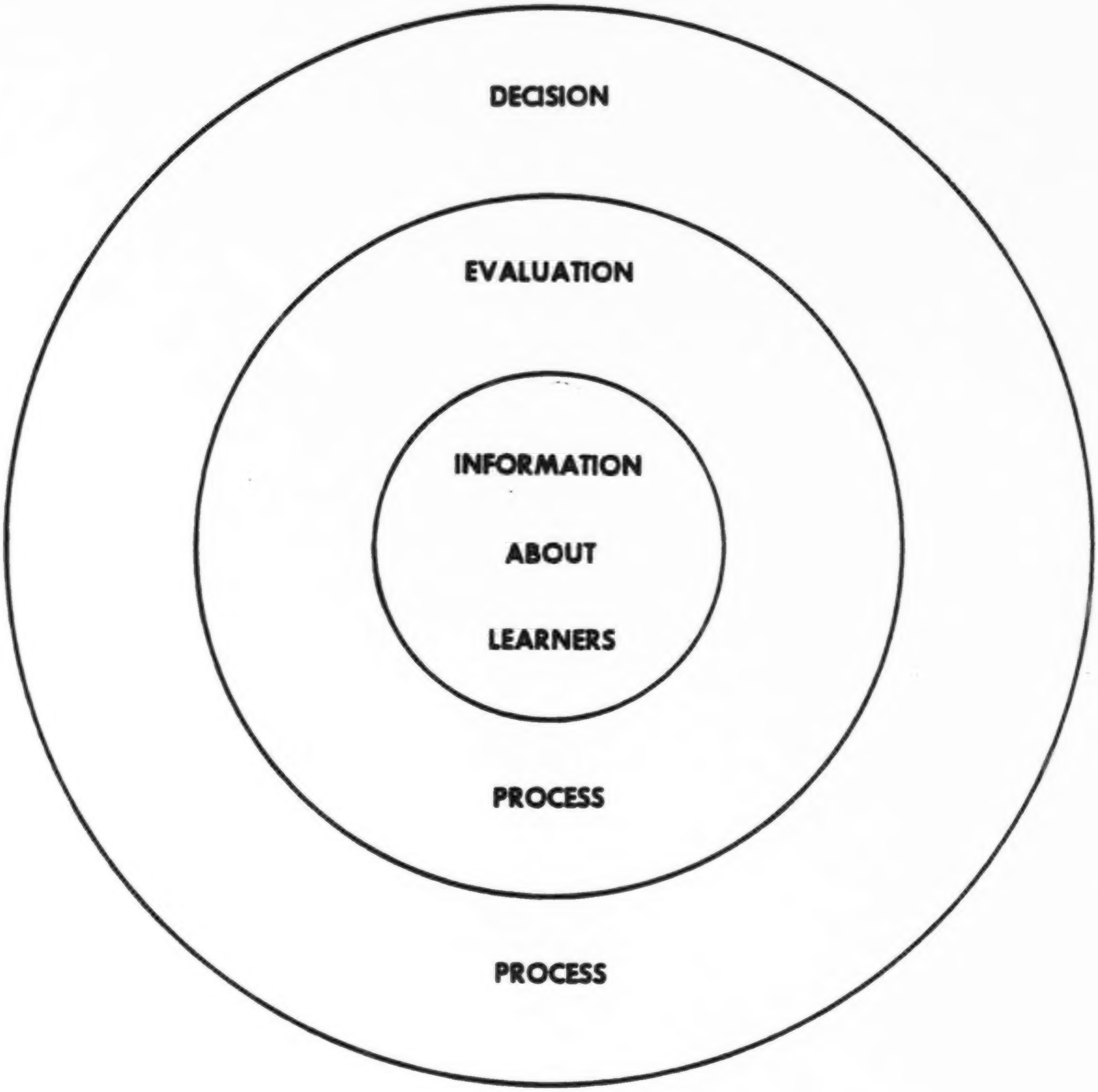
Instruction rests on decision making. On a daily basis teachers must select instructional techniques that best match the abilities of their students and the objectives to be accomplished. They must decide how the content to be mastered will be subdivided and presented to offer students the greatest opportunity for mastery. Decisions related to time use and emphasis must be considered, and, of course, decisions must be made to include and exclude particular topics in the lesson. These decisions are ever-present in teaching, and can be problematic even for experienced teachers. It is little wonder that beginning teachers are often troubled by the responsibility.

Not to worry. There are ways to address these problems. In order to master the process of making sound decisions teachers must develop a strategy for monitoring classroom activities on an ongoing basis. I will suggest one such strategy, which is represented by the three concentric circles shown in Figure 2 (see next page).

The center circle represents the information about learners that teachers have at their disposal. Since this information is the heart of the decision-making process, the teacher must take care to ensure that it is collected so as to give a complete, reliable picture of what is happening in the classroom. The second circle represents the process of collecting and evaluating the information. The degree to which the teacher is able to ensure that the information has been reliably collected will determine the quality of the decision regarding planning for instruction. The third (outer) circle represents decisions to be made based on the evaluation of the information collected.

When we discuss the topic of instrument construction we will consider techniques for developing reliable and valid procedures for collecting information about children. Before beginning that discussion, however, it is important that we examine more closely the center circle. It is the focus of classroom energy. How the teacher harnesses and uses this energy determines the quality of classroom life, and to a

Figure 2. Decision-Making Process


DECISION
EVALUATION
INFORMATION
ABOUT
LEARNERS
PROCESS
PROCESS

great extent the degree of instructional success. It is crucial, then, that as teachers plan for instruction they also plan for formal and informal monitoring of learner progress (Tyler, 1950; Zahorik, 1975; Morine-Dershimer & Vallance, 1976).

Let's look at a situation in which a teacher would be required to make a decision regarding a student's progress:

Anna, a sixth-grade teacher, noticed during mathematics drills that George was having trouble keeping up. She wondered if she should move him to a slower math group or place him in a remedial class. She decided that she needed more information before she could accurately judge George's mathematics ability.

Her first step was to plan a strategy for collecting the needed data. Over a period of several weeks Anna collected considerable information regarding George's mathematics aptitude. She gave him a series of standardized and informal tests. She observed George during recitation drills in an effort to detect behaviors which might indicate particular attitudes toward mathematics. She used flash cards to check his knowledge of facts.

After analyzing the information collected from these formal and informal evaluations, Anna drew the following conclusions:

1. George's mathematics aptitude was slightly above average.

2. George understood addition; however, he seemed to have some difficulty with subtraction.

3. George was shy around the children in his math group and tended to be less aggressive than the other members during recitation drills.

4. George was very athletic and tended to rush out of the room when the bell signaled the beginning of physical education class which, immediately followed George's math group.

On the basis of her data, Anna decided to make several changes in her approach to teaching mathematics. George's aptitude indicated that he should remain in the same group. His shyness in the group suggested that he was somewhat insecure; thus, she decided to work with him individually on subtraction. She also decided to praise George's athletic abilities in an effort to channel his more aggressive traits into the academic setting. Finally, Anna changed the meeting time of George's group so that it met immediately after physical education.

Anna used both formal and informal evaluation procedures in her instructional planning. She noticed a problem with one of her students, and, basing her judgments on reasonable data, designed a procedure for dealing with the situation. Clearly, in this example, instructional planning was shaped by the evaluation procedure, resulting in informed decisions.

The overlap of instructional planning and evaluation planning does not stop here. As I noted at the outset, it is important to recognize that the identification of content to be included in a lesson automatically assigns it value and operationalizes at some level the decision to evaluate a learner's ability to grasp specific concepts. Establishing methods for evaluating student progress when planning instruction gives direction and purpose to teaching-learning activities. The successful teacher strives for consistency between these activities and the evaluation criteria so that students are given every opportunity to master what is being taught.

Practice Activity

This section addressed the issue of using information about learners to establish a basis for instructional/evaluation planning. Read the paragraph below and responde to the questions that follow.

Joann, an energetic third-grader, is extremely disruptive during class. Her grades in mathematics and reading are below grade level. She excells, however, in art and music. She is popular with her classmates and, other than for her disruptions, is well-liked by her teacher.

1. How might Joann's teacher collect useful information about Joann's performance?

2. What very tentative conclusions might be drawn relative to Joann's behavior?

Designing Procedures for Formal Evaluation

Collecting reliable information about learners is an important part of decision making. This section will concentrate on designing evaluations that are relevant to the objectives of the lesson and fair to the students being evaluated.

Preparing Students for Testing

It is crucial that students be given a fair chance to demonstrate their attainment of the objectives set forth at the beginning of a lesson. For this to occur, learners must be motivated to do well, they must be testwise, and they must have healthy levels of test anxiety.

Motivation. The concept of motivation vis-a-vis testing has received a great deal of attention from researchers. Students must be motivated to put forth a serious effort on tests if scores are to be maximally reliable (Flanagan, 1955; Naughton, 1968). In addition, there seems to be a positive relationship between a learner's motivation to succeed and the teacher's expectations of success (Kirkland, 1971; Anastasi, 1976; Anastasi & Cordova, 1953; Gorden & Durea, 1948). One might mistakenly conclude that having a positive attitude toward learner progress is all a teacher need do to instill in children a sense of pride in their academic accomplishments and thus encourage greater success in the classroom. The issue, however, is not so simple.

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The act of motivating a child is partly related to social approval. Crandall (1963) and others have found that social approval, often defined in terms of teacher praise and recognition, can motivate children to achieve. When teachers recognize a job well done, students often tend to build on their successes.

Questions arise, however, over the issue of how effective praise remains if it is overused or used indiscriminately. Any reward, given too often, will eventually lose its value as a motivator! How, then, does the beginning teacher know when and how often to use praise to encourage student performance on examinations and assignments? The answer may lie in being honest with children and praising them only for genuinely praiseworthy acts. Children know when they have extended themselves and when their effort is praiseworthy. They will appreciate the fact that the effort has not gone unnoticed. Likewise, children know when they have not given time and energy to an assignment, and praise in this situation will not only be empty, but could result in the teacher losing credibility with students (Brophy, 1983).

Using praise effectively requires that teachers know the strengths and limitations of their students. To do so, teachers should spend time reviewing student records as well as talking with students and their parents. The bottom line is to get to know your students. It would be defeating for students to be given tasks for which the chance of success is extremely low, or for which the effort required for success is so slight as to make the tasks unchallenglenging. Knowing your students' strengths and weaknesses may help prevent such situations from occurring (Good, 1983).

Other techniques for motivating students may be found in the methods teachers use to present material. Charles and Stadsklev (1973) found that games and simulations tend to motivate children by promoting interaction, by presenting real-life situations, and by helping them become involved in the learning process. Teachers should be aware of student responses to particular methods of instruction and be flexible and comfortable with a wide range of assessment and instructional techniques.

Practice Activity

Your assignment is to teach a group of low-achieving students. Explain how you might motivate these students to work to their capacity by using praise, grades, and a variety of instructional methodologies. Be sure to think about examples of each method of encouragement.

Testwiseness. Being "testwise"--knowing how to take tests--may make it possible for some students to do well on examinations. Those who lack test-taking skills, on the other hand, may perform below their abilities. Studies have shown that students who have received instruction on how to take a particular test consistently perform better on the test than those who have received no instruction (Oakland, 1972; Kalechstein, Kalechstein, & Docter, 1981). It is important that teachers allow ample time for teaching students how to take tests.

Testwiseness is the learner's ability to utilize the format and characteristics of a test or test-taking situation to receive a score that will accurately reflect the abilities being measured. Consider the following example of testwiseness during a multiple-choice test:

> When directed to begin the test, Betty carefully reads the instructions and starts to work rapidly. As she works through the test, she answers the items she knows first, omitting those about which she is unsure. When she has answered all of the items she knows, Betty returns to the items she skipped, eliminates the choices she knows are incorrect, and begins to choose what she deduces to be the correct answers. She looks for clues in

> the content of each item as well as in the other items on the test. After finishing the test, she checks to be sure that she answered all items and has not misread anything.

When answering essay questions, it may be helpful for students to begin by listing or outlining all important points to be covered in their response. In addition to the critical elements of the response, they should attempt to list other salient points which will serve to enrich their answer. Note the following example.

> Frank has been asked to discuss the political issues of the 1980 Presidential Election and to give a possible reason for the defeat of the incumbent President. In preparing his response, Frank makes a list of the major issues (e.g., a growing national debt, the Iranian hostage crisis, the buildup of nuclear arsenals of the Super Powers, etc.) After completing this list, he carefully notes important points to be used in discussing each of these items (e.g., national debt-spiraling interest rates, high unemployment, Iranian crisis--the failure of America's rescue attempt, a lack of public faith in the foreign policy of the Federal Government, nuclear buildup--growing discontent of anti-war groups, peace rallies). Using this list, Frank begins to explain why Jimmy Carter was unable to defeat Ronald Regan in the 1980 Presidential election. After he has written his answer, he carefully reads it, checking for meaning, omissions, misspellings, and punctuation erros.

In both instances, the students have shown a degree of mastery of test-taking skill. Their extra efforts should help them improve their chances of receiving their highest possible scores on the tests.

Practice Activities

1. Make a list of the skills children will need in order to achieve their highest possible grade on a test you have constructed.

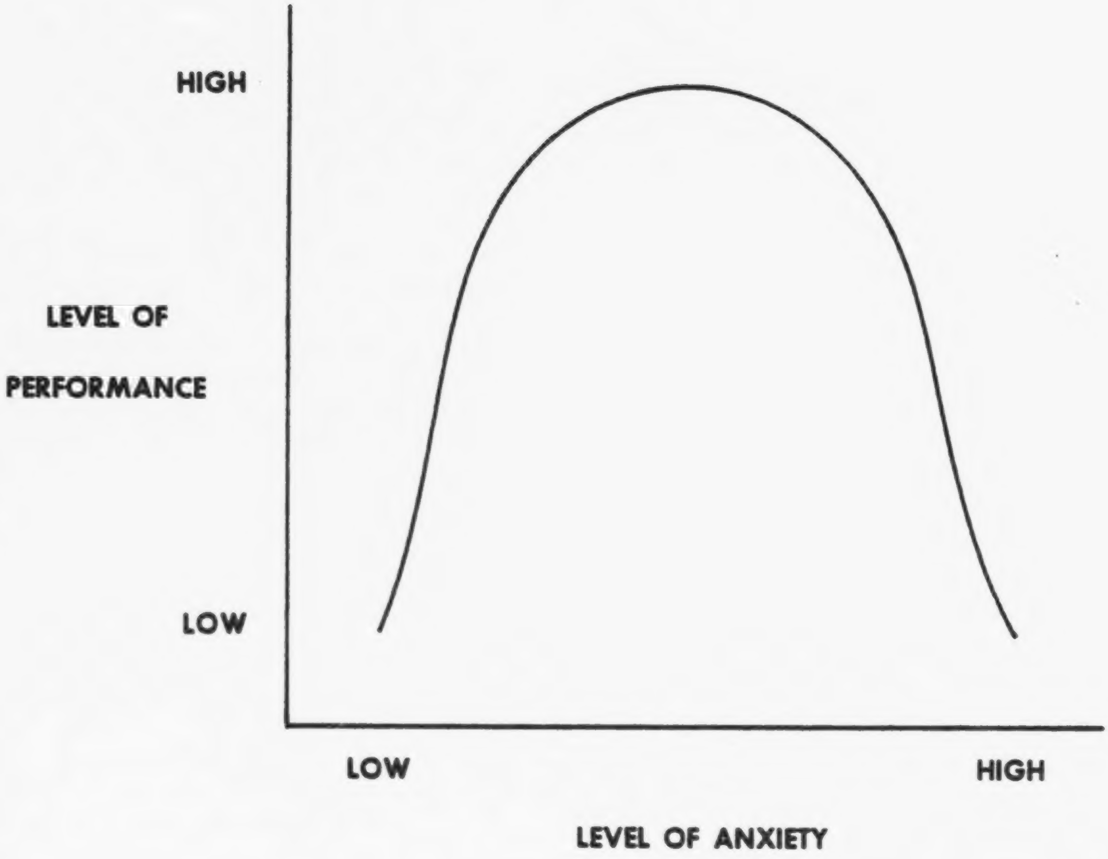
2. Make a list of activities that you could use to teach these skills.

3. Consider how you could check to see if your students possess those skills.

Test anxiety. There is little doubt that testing causes anxiety levels to increase. For most students, anxiety levels increase only moderately, and may actually motivate them to work as hard as possible to achieve success. For some, however, test anxiety may seriously interfere with test performance, and may even have an impact on their physical well-being. Gage and Berliner (1975) graphed the relationship between anxiety and performance (see Figure 3 on next page). As indicated by the curved line in this graph, moderate amounts of anxiety motivate students to perform well, whereas low and high anxiety levels produce low performance. Several studies substantiate this relationship and note that the debilitating effects of test anxiety cause students to spend less time on task and to devote less attention to test-taking (Cotler & Palmer, 1970; Wine, 1971).

Knowing anxiety can be both beneficial and detrimental to student performance, it behooves a beginning teacher to create an atmosphere in which learners can relax. Techniques for creating such an atmosphere will vary; however, there are several strategies one might try. First, it is important for learners to have all necessary information regarding the test. Care should be taken to ensure that directions are carefully and clearly explained and that

Figure 3. Schematic Representation of the Relationship Between Anxiety and Performance



Note: Adapted from Gage & Berliner, 1975.

all materials necessary for the successful completion of the test are at the students' disposal. Adequate notice should be given prior to the administration of the test to allow students to prepare to the extent they desire. In situations where "pop quizzes" are used to determine part of students' grades, it should be announced at the beginning of the course that students can expect unannounced quizzes periodically. Second, efforts should be made to ensure that students are physically comfortable during the test. The temperature in the room should be comfortable, and lighting and ventilation should be adequate. It is preferable that students be tested in the familiar surroundings of their own classrooms as opposed to a cafeteria or an auditorium.

Practice Activities

1. You have noticed that several of your students are exhibiting symptoms of extreme anxiety about an upcoming test. Try to think of several approaches you might use to lower their anxiety.

2. There are several students in this same class who seem to care little, if at all, about the test. How could you help them to become more concerned about their test performances?

Preparing and Administering Tests

Educators place great emphasis on test scores. We promote, fail, or provide remediation for children in response to their performances on teacher-made tests. Yet, perhaps the most generous statement that might be made about teacher-made tests is that they are generally defective evaluation devices (Thorndike & Hagen, 1969).

This section will discuss teacher-made tests. It will deal specifically with ideas for developing a blueprint for a test, constructing test items, and administering a test.

Preparing a test blueprint. As noted earlier in this chapter, planning for instruction and evaluation should occur simultaneously. There are several reasons you should try to do both before instruction. The most obvious is that it is relatively simple to develop a test blueprint from a well-constructed lesson plan. This not only will serve as a means of ensuring that all parts of the lesson are covered, but will also save hours of agony when time comes to produce a test to evaluate students' progress.

The most important step in planning a test is to define the objectives of the lesson. Many volumes have been devoted to the usefulness of stated objectives as a means of identifying and presenting content and developing skills. For the purposes of this discussion, however, let's simply note that appropriately stated objectives will make it easier to decide what to include on a test. Box 1 (see next page) gives an example of a blueprint for an examination in World History for a ninth grade class.

The three categories of objectives in Box 1 have been weighted so as to total 100%. These weights are determined somewhat arbitrarily by the teacher; however, a rule of thumb is to assign the greatest weight to those topics which receive the most attention during instruction (e.g., two weeks of instruction time on a particular topic might be translated into roughly 30% of a unit, thereby weighting the material in that section of the test as 30% of the exam grade).

Constructing test items. There are a number of concerns to consider when constructing a test. One of the first questions to be addressed is how many items to include. Teacher-made tests should be "power" tests rather than "speed" tests, so it is important to construct a test that will allow most of the students a chance to attempt each item. The greater the number of process objectives covered by the test, the greater the number of items required to measure achievement.

Since most class periods average 40 to 50 minutes, it will be important to make a determination about the type of items based on the time constraints. For

Box 1
Blueprint for World History Test–10th Grade

Process Objectives	**Content Areas**		**Number of Items**
	The Roman Empire 50%	The Golden Age of Greece 50%	
Recognizes vocabulary and key terms	–Pax Romana –senate –patrician –plebeians legion tribunes veto aqueducts	–democracy –propaganda –minotaur –labyrinth calvary tyrant helots spartan	
20%	4 or 5 items	4 or 5 items	8
Identifies specific facts related to . . .	–establishment of Roman Empire –Importance of the Roman Senate –Roman leaders –Punic Wars	–types of democracy –reasons for importance of sea trade –city-state rivalries –Greek contributions to Western culture	
40%	7 or 8 items	7 or 8 items	16
Identifies principles, concepts and generalizations from content	–relationships between Roman leaders and the fall of Rome –struggle between the Christians, Hebrews, and Romans –literature and the Greco-Roman culture	–development of a flourishing culture –colonization as a result of sea trade –Persian Wars threatened Greek civilization	
40%	7 or 8 items	7 or 8 items	16
Number of items:	20	20	Total: 40
Total time for test:	50 minutes		

Note: Percents indicate weight of objective.

instance, if you want to measure ten process objectives, three of which relate to student writing skills, you might decide to limit the number of objective items on the test to allow students enough time to give you an accurate sample of their writing abilities. If, on the other hand, you want to measure 15-20 process objectives, each being defined by several items, it might be necessary to use more objective items (multiple choice, matching, checklist, etc.). It might be helpful to note that a typical student might require 30 to 45 seconds to read and attempt a fairly simple multiple choice or true-false item, while he or she might require 75 to 100 seconds to read and attempt a more complex item (Thorndike & Hagen, 1969).

Several types of test items have been used effectively over the years. The types of items that are most often constructed by classroom teachers are essay questions and true-false, matching, and multiple choice items (see Box 2 on next page). Each of these item types allows students to operate within a completely structured situation. Students respond to a large sample of items and receive a score for each item based on a predetermined answer key.

Both essay and objective items should be used to evaluate most types of student learning. The number of items in each category will be determined by time constraints, pupil ability, and the process objectives listed in the lesson/test blueprint.

Administering the test. The medium for administering a test will depend on the facilities available in school. Beginning teachers will invariably encounter administrators who are conscious of the ever-increasing costs of purchasing supplies, and thus may be instructed to use paper sparingly. In such cases, the chalk board provides a practical solution for administering essay questions. Space on chalkboards is usually too limited to use when presenting multiple choice and matching items.

It is possible to administer a test orally; however, this procedure may not be appropriate for all groups. Differences in student abilities make it difficult to set a tempo that allows enough time for

Box 2
Types and Examples of Test Items

The Essay Question

Essay questions allow students to use their own words and style of writing. Because of time constraints, there are usually a small number of questions to sample student achievement. Students are required to supply organization and detail. Answers to essay questions will vary in degrees of completeness and accuracy.

Example: Compare the administrations of President Nixon and President Reagan in terms of significant developments in international relations. Cite specific examples.

True-False, Matching and Multiple Choice Items

These items, typically referred to as "objective," provide students with a limited number of choices from which to select their answer. Examples of each type are given below.

True-False

T F Measles is caused by a virus.

Matching

Column A	Column B
( ) 1. Cairo	( ) a. Ganges
( ) 2. Calcutta	( ) b. Mississippi
( ) 3. New Orleans	( ) c. Nile
( ) 4. Paris	( ) d. St. Lawrence
( ) 5. Quebec	( ) e. Seine
	( ) f. Thames

Multiple Choice

Who were the Huks in the Philippines?
a. A tribe of primitive head hunters.
b. A community-supported rebel group.
c. Wealthy land-owners and industrialists.
d. Members of the minority party of the legislature.

all students to decide on an answer to a problem and then to record it. True-False and short-answer items seem to fit this medium best. Multiple-choice questions may be too difficult to follow easily (Thorndike & Hagen, 1969).

Practice Activities

1. Prepare a statement of the objectives for a unit you plan to teach. Which of these objectives might be measured by a written test?

2. Use the objectives from Question 1 to prepare a blueprint for a test to evaluate your students' progress.

3. Using your blueprint as a guide, construct a test for your unit. Include essay, multiple choice, matching, and true-false items on your test.

Assigning Grades

Educators have debated for years the advantages and disadvantages of grading students' efforts. A number of researchers have concluded that grading students is detrimental and undesirable (Holt, 1969; Purkey, 1970; Marshall, 1969), while others have stated that evaluation and grading are inescapable and worthwhile (Osgood, Suci, & Tannenbaum, 1957; Fitch, Drucker, & Norton, 1951). No doubt both positions have merit and should be given consideration.

Regardless of one's position, however, we can remain somewhat certain that tests and grades will be with us in the future for they are part of most educational systems, and children are conditioned at an early age to consider grades as social and personal rewards. Teachers can use grades not only as indicators of student progress but also as incentives to help students reach higher levels of achievement. Because grades are used to evaluate student progress, and thus part of the process of retention or promotion, they automatically affect students' desire to do well. Teachers must ensure that each student has opportunities to succeed and that tests are neither too difficult nor too easy. Care should be taken to explain test results to students and to ensure that students who have performed poorly understand that low grades are neither indicators of personal worth nor proof that they are low achievers.

The literature is inconclusive about the effects of strict or lenient grading on low- and high-achieving students (Goldberg, 1965). A safe rule for beginning teachers might be to construct a reliable and valid test for a particular group of learners and use the results to encourage children to learn. To some degree tests will determine when, what, and how students will study. Well-constructed examinations can give students an opportunity to test their knowledge and, with prompt and constructive feedback, can motivate students to improve their performances. Tests that are poorly constructed or used as punishment for misbehavior can just as effectively discourage learning and have extremely negative effects on students' self-concepts.

It is important to realize that for some students, grading requires special procedures. Bender (1984), for example, suggests the following guidelines for grading handicapped children in the mainstream:

1. Base grades on the objectives found in the students' Individual Educational Plans (IEP). It is important that the mainstream teacher participate in the formulation of the handicapped child's IEP to ensure that the IEP objectives are consistent with those in the mainstream class.

2. Grade student performance on a logical sequence of objectives. The objectives should follow, as closely as possible, the sequence of objectives in the mainstream class.

3. Grade learner performance on individualized instruction of these objectives. Planning for instruction should reflect an understanding of the academic abilities of the handicapped child.

4. Explain all grading practices on the IEP. If, for instance, a mainstreamed child is receiving good grades on work below grade level, it is important to explain this verbally and in writing at the IEP meeting.

5. Grade student performance on state or district competency test objectives _only as a last resort_. If this is required by your school district, the IEP objectives should be constructed so as to include state or local competencies.

6. Seek guidance from principals and other teachers in grading handicapped students' performances. Use experts in the field, or other professionals who have dealt with similar questions.

Evaluating Learner Progress Through Informal Assessment

Our discussion to this point has concentrated on specific skills necessary for performing formal evaluations. We have examined a wide range of specific concerns to increase your understanding of how to evaluate learner progress. The evaluation picture, however, is not yet complete. Although much emphasis is placed on the importance of test results, it is equally important for the beginning teacher to master strategies of informal assessment, because many of a teacher's decisions are based on information gathered through examination of student products such as presentations, papers, homework, and discussions. These informal assessments of student behavior help teachers determine instructional goals and select strategies for instruction _and_ evaluation. An organized and systematic method of informal assessment can enhance a teacher's ability to understand students and to make appropriate instructional decisions.

Before examining several methods of informally assessing learner progress, a few words about the nature of informal evaluations are necessary. First, unlike formal evaluations, informal assessments are ongoing and formative. Information gathered about students is not referenced to a particular question or fixed point in time. Therefore, the degree to which teachers can develop and refine their intuitive skills will determine the amount and utility of the information collected. Remember, formal and informal assessments should be used to make decisions about how to deal with students.

Second, informal assessments are most useful when students are actively involved. Such active involvement can result in greater student participation in planning and instruction and in improved student motivation. Instruction tends to be teacher-dominated when information about students is not shared with them, thus forcing students to play a passive role in the classroom.

To involve students in the instructional process, one strategy might be to discuss an upcoming unit with the class and ask them to research particular topics related to the unit. The students should be provided an outline of issues to be explored; however, they should be encouraged to explore the topic fully and to expand the outline if possible. Time should be allowed for these research activities, since many students will have to rely on resources located in the school library. Once this activitiy have been completed, the results of their research can be discussed. An instructional plan can then be devised, incorporating the ideas and information provided by the students into the overall instructional plan for the unit.

Third, it is important to note that assessments have traditionally focused on students. As teachers, we have found that student assessments provide the most easily accessible information. The danger is that our observations will be too narrow, that we will set our boundaries for data collection at points that do not include events outside of the classroom, thereby affecting students' abilities to perform well in class. The quality, and consequently the usefulness, of data collected will depend on the teacher's ability to set meaningful limits for data collection. This data should provide a thorough understanding of the learners' experiences and abilities.

The number of techniques teachers might use to assess informally learner progress is limited only by imagination and experience. Most teachers, however, will ask questions and observe learners as they work, so as to check learner understanding. These options shape the discussion below.

Asking Questions

The information teachers collect, whether in formal or informal situations, will be only as good as the questions they ask. It is important that teachers ask questions that solicit the information needed to make appropriate decisions. Bloom and his colleagues (Bloomn, Englehart, Furst, Hill, & Krathwohl, 1956) have identified six levels of objectives that can be applied to informal evaluation (the chapter on QUESTIONING SKILLS discusses Bloom's approach in detail). In Box 3 (see next page), the taxonomy has been modified to provide a framework for generating questions to be used to examine a student's level of thinking. Each level of this taxonomy represents an important component of student achievement. Answering knowledge or recall questions helps students acquire information with which to think about, formulate, and verify conclusions. Questions at this level should be used as a foundation for higher levels of analysis and synthesis.

Questioning skills can also be a valuable tool for students as they attempt to learn material covered in class. One strategy for teaching students to ask questions might be to supply them with the information shown in Box 3 and to ask them to write several questions at each cognitive level. After discussing their questions and explaining misconceptions, the teacher could give the students a series of questions to classify into the categories presented in the taxonomy. This activity should be reinforced frequently.

A second strategy might be to have children arrive at the answer to a problem by asking questions. Torrance and Myers (1970) cite an example of a teacher who instituted an "I" (for Inquirers) club for students who explained a puzzling event by asking questions. They provide the example reproduced in Box 4 on the following page.

Box 3
Informal Evaluation Based on Bloom's
Taxonomy of Educational Objectives

Topic: Primitive Tribes

Level of Objective	**Sample Item**	**Sample Student Response**
Knowledge: Ability to recall or recognize ideas, facts, etc., when certain cues or signals are given	"Name one primitive tribe of people."	"The Yanomamo Indians of South America."
Comprehension: Ability to receive and understand what is being communicated	"Describe how they live."	"They hunt wild game and gather fruits and vegetables."
Application: Ability to use questions, rules, principles, ideas, and methods in particular situations	"Give an example of how their way of life is similar to the way people live in our country."	"We both depend on plants and animals for survival. We only differ in the way we get them."
Analysis: Ability to break down information into components or parts	"Explain how primitive families divide the work."	"The men were hunters and warriors, and the women took care of the children."
Synthesis: Ability to work with pieces of a whole	"Determine what a person from a primitive culture would need to do to prepare for a meal."	"Find meat and vegetables; build a fire; prepare food; cook food; and eat."
Evaluation: Ability to make quantitative and qualitative judgments about the usefulness of ideas and information	"Assess the benefits of living in a primitive culture."	"It is good to be free to hunt, but bad when game is scarce."

Box 4

The "I Club" Approach to Teaching Children to Ask Information-gleaning Questions

TEACHER: Several years ago a Japanese ship left port and headed for the open sea. When it had reached a spot about five hundred miles from the nearest point of land, the captain gave a signal and the crew spilled a half-ton of pearls over the side. What questions can you ask that might help you explain this apparently unreasonable (and true) happening? Ask only questions that can be answered by "yes" or "no." Each of you can keep up his questioning until he decides to "pass" to someone else.

VICKI: Were they crooks who were being chased by the police and wanted to get rid of the evidence—the pearls—so they would not be jailed?

TEACHER: No.

VICKI: I pass.

HARRY: Was the captain driven crazy by a mysterious drug, and then he forced his crew to throw the pearls overboard?

TEACHER: No.

HARRY: I pass.

JENNY: Did the Russians break a Japanese code and then follow them in a sub, and then they surfaced and were about to get the pearls, and so the captain told the men to throw the pearls overboard?

TEACHER: No.

JENNY: I pass.

MARY: Were they doing anything illegal?

TEACHER: No.

MARY: Uhh . . . I pass.

JEFF: Was the captain following orders from someone?

TEACHER: Yes.

JEFF: From the Japanese government?

TEACHER: Yes.

JEFF: Was it the war or defense department?

TEACHER: No.

JEFF: Was it the part that has to do with trade with other countries?

TEACHER: Yes. That is half of it. Can you get the rest?

JEFF: Uhh. Gosh, I don't know.

TEACHER: Go head—try another question.

JEFF: Was it because they wanted to keep the price of pearls high?

TEACHER: Yes. You are in the "I" Club.

Note: From Torrance & Myers, 1970, pp. 241-242.

Practive Activities

1. Select a topic from a lesson you plan to teach. Make a list of questions you might use in a discussion with students. Try to write one question at each of the six levels shown in Box 3.

2. Consider why students should learn to ask good questions.

Checking Understanding

A more detailed discussion of questioning strategies as they relate to instruction is presented in another chapter in this text. For purposes of evaluation, however, using questions to check learners' understanding of the concepts presented in a lesson can be an important measure of whether or not the lesson objectives have been met. It would be difficult to formally test students at the end of each lesson. Yet, a teacher needs to seek feedback as to the progress being made by learners so that appropriate lesson modifications can be made. It is important that puzzled looks, unusual replies, protests, the lack of performance, and other responses not go unnoticed (Fraenkel, 1973). Any of these cues can provide invaluable information on how well students are responding to the lesson being taught and can help the teacher answer that very important question, "Have my students learned what they need to learn in order to move on to the next objective?"

Counseling Learners on the Importance of Test Results

Thus far we have discussed the importance of planning evaluations when planning for instruction. We have noted the need to ensure that formal and informal evaluations are both relevant to class activities and fair for all students. We have also stressed the importance of evaluating learner progress on an ongoing basis to check their comprehension and understanding. In this final section we will explore the issue of counseling children on the importance of test results.

From the primary grades to graduate school, students frequently ask questions about the importance of material on which they will be tested. The frequency of these questions indicates that students perceive tests to be an important guide to what they need to know in order to be successful, and indeed, to define that which they need to learn. In light of this, the successful teacher will use this motivational factor to the greatest advantage by counseling students on the necessity of performing well on a particular test.

By definition, counseling learners on the importance of test results involves explaining the purpose of the test and how the results will be used. In addition, students should understand why a particular test is relevant to them personally.

The perceived importance of a test appears to affect student performance. Yamamoto and Dizney (1965) found that children performed better on a test when it was called a "standardized" test than they did when it was called an "achievement" test. Naughton (1968) showed that students who were informed of how test results would be used performed better than those who were not so instructed.

Research has indicated that examiners should try to be positive and approving in a testing situation and should attempt to convey the idea that there is an important task at hand. Shannon (1980) found that student attitudes toward reading were more positive when students were counseled on the nature and purpose of the testing before the test was administered than when they were not. Communication of the test's importance thus affects the overall score received by the learner.

Communicating test results. What teachers say to students and what they communicate may be entirely different. If, for instance, a teacher says, "Frank, you made a stupid mistake," what she communicates may very likely be "I don't care for you." The objective of sound communication is to alter, in a positive manner, learners' self-images and to give them a sense of the importance of results to them personally.

Thorndike and Hagen (1969) offer three suggestions for presenting test data. First, although individual test results are vital to the instructional process, teachers should attempt to present an overall picture of the student's standing on an ongoing basis. Teachers should realize that the benefits of using test results to alter self-perceptions in students will be a gradual process.

Second, teachers should attempt to relate the significance of the test to the student's activities and experiences outside the classroom. The greater the congruence between these two experiences, the more successful the bid to relate the importance of the test to the student. For instance, Jimmy wants to join the Navy after graduation. His career goals include attending the Navy's nuclear submarine program. His physics teacher takes extra time to stress the relationship of physics to his career goal and points out that one factor to be considered by the admissions board will be his mastery of physics principles. In essence, Jimmy's teacher has made a connection that is clearly relevant to his life experiences and has increased the importance of his doing well in physics class.

Third, students should take an active role in relating test results to themselves and their plans. The acceptance of the information communicated depends on the student accepting as true what has been said. This depends in part on the student making a conscious effort to relate test results to his or her situation. Thus in regard to our earlier example, Jimmy should take an active role in interpreting the meaning of a low score on a particular test and the relationship of that score to his chances of being accepted in the nuclear submarine program. In summary, teachers and students working together in an honest and open atmosphere should be able to use tests to enhance the learning experience.

Practice Activity

Consider the following:

1. Why is it important to counsel learners on the use of test results?

2. What steps should you take in presenting test data to students?

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